SUPPLEMENT.

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FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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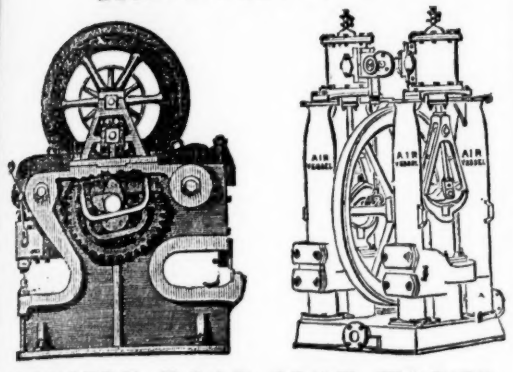

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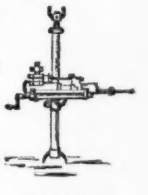

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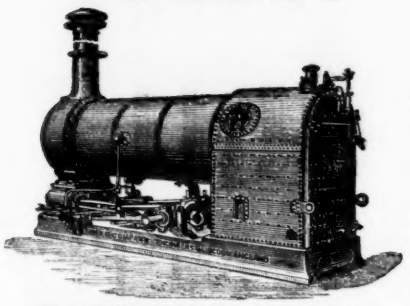

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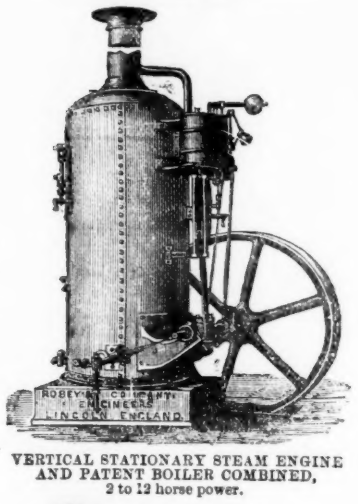

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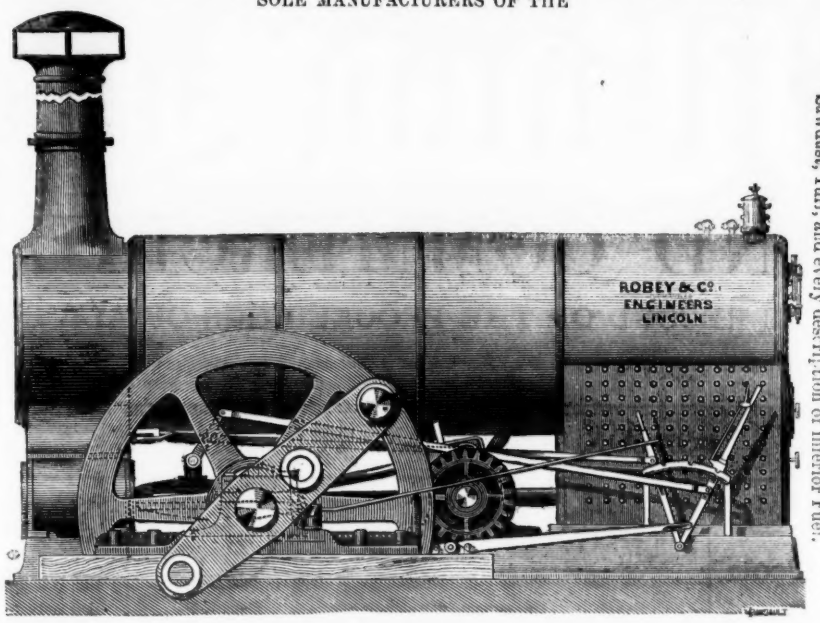

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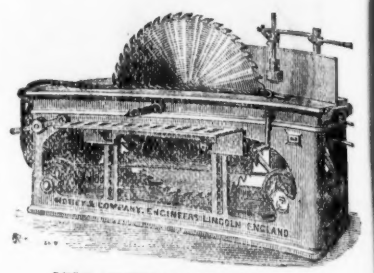

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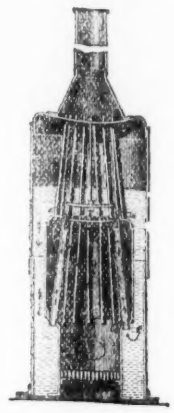

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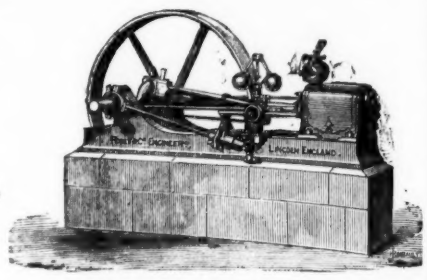

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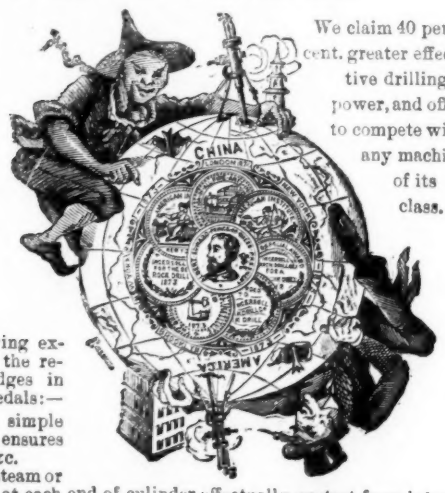

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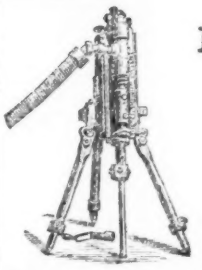

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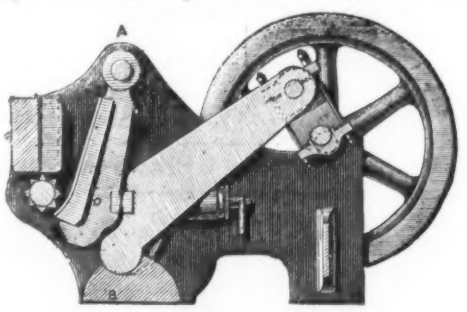

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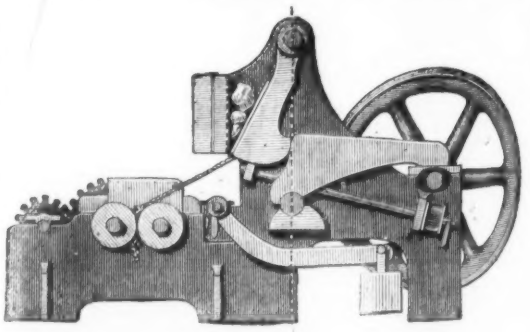

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COMMERCE IN THE SUPERIOR METALS—FIRST SIX MONTHS OF 1877.

The first half of 1877 has transpired, and amidst the discussions which exist as to the prospect of British mining, and the trade in metals with which it must prosper or recede, it is appropriate, and indeed necessary, that a retrospect of the half-year's business as to imports and exports, as far as they are furnished by the Board of Trade, should be carefully taken. Holders of stocks are generally hopeful. They say that the best part of the year has yet to come, and that there are certain elements and tokens of revival which justify expectation. On the other hand, many are of opinion that stocks should be at all events more freely parted with, even at the hazard of some decline in prices, and that large imports should for the present be discouraged, so as to ease the markets, and form some substantial ground for better terms ultimately. Let us see what light the Custom House Returns, as arranged and tabulated by the Board of Trade, throws upon the actual state of things, and the conflicting opinions and discussions to which that gives rise.

The largest import of metals is that of copper. During the half-year ore has been received from abroad to the value of 489,741*l.* It has been derived from Chili, the Cape of Good Hope, Spain, America, and in smaller degrees from various other countries. The quantities amounted to 39,869 tons. Comparing these figures with the first half of the previous year there is an increase of nearly 80,000*l.*, and with the same time in 1875 the increase is over 165,000*l.*, while quantities stand for last year at 28,895 tons, and the corresponding period of the year before that 22,212 tons. Our imports of copper ore are, therefore, greatly increasing from year to year, and it does not appear, so far as we are able to acquire the information, that there are more than ordinarily heavy stocks. Regulus, including precipitate, shows value for 643,981*l.*, against 599,385*l.* in the first six months of 1876. The quantities were this year 17,872 tons, last year in the same period 15,507 tons, and the year before that 19,326 tons. Chili sends us the lion's share, but various other countries are exporters to us. Unwrought or part wrought stands at the high money figure of 1,547,586*l.*, and in quantity 20,964 tons. The imports are generally rather more than half from Chili, and the bulk of the remainder is from Australia. The total value of this metal imported was 2,681,308*l.*, as compared with 2,551,032*l.*, and 3,182,679*l.* for the first portion of the two previous years, showing an increase upon last year, but a considerable decrease from the year before, when the imports consisted not so much of ore as of regulus, precipitate, unwrought and part wrought. This extra import chiefly went into stock, and lessened the import demand for the succeeding year. The month maintained the proportions of the longer period. All these copper imports were not consumed in the United Kingdom. The ores were smelted, and the copper residue consumed here or sent abroad. But the wrought or part wrought forms of the metal were exported to the extent of 559,598*l.* This is a falling off in a profitable description of business. The "re-export" trade for last year in the same space of time was of the higher value of 635,735*l.*, but it was also higher than in 1875, when the imports were greater, showing that "the re-export" is fitful and capricious, depending upon sudden falling of stocks in other countries, or a neglect to replenish them. A comparison of the quantities of foreign copper exported, it is plain that, notwithstanding bad times, the English metal merchants have made well by this feature in their commerce. It is remarkable, however, that in this branch of business the month shows signal decline; from whatever cause the lesser period shows a falling off in value of one-half from the first six months of 1875, and of about 22 per cent. compared with 1876. Quantities show similar proportions. No enquiries which we have instituted have resulted in satisfactory information to explain this; the general opinion that stocks have discouraged re-exports we cannot recognise as tenable.

The exports of British copper were divided into three classes—1. Unwrought in ingots, cakes, or slabs.—2. Wrought or manufactured.—3. Yellow metal sheathing. The value of the first was 402,357*l.*, a decrease of nearly 128,000*l.* as compared with the first half of 1876, and a decline, but not so great, in the corresponding period of 1875. This deterioration continued last month, when the decline was heavier than 50 per cent. compared with the first six months of last year, and 30 per cent. upon the same period the year before. France was our chief customer for unwrought copper, taking a very small quantity of manufactured, the French themselves being artistic in working the metal, but not possessing it as a mineral. British India, however, received more of the export than any other country, amounting to 211,671*l.* manufactured, and 37,701*l.* in ingots, cakes, or slabs. Germany, Holland, Belgium, and Russia, in the order in which they are written, were the next chief consumers. British copper in an unwrought state was exported to the value of 402,357*l.*; in a manufactured condition it exceeded 500,000*l.* In the form of yellow metal or sheathing the chief export was made, the value reaching 617,728*l.* The total worth of British copper exported this half-year was more than 1,500,000*l.*, a slight increase upon the value in the corresponding period of last year. During the month there was a decrease in every form, except sheathing, and a less amount in proportion to the half-year. The falling off was chiefly with Germany, France, Russia, and Italy, counteracted by a large advance to Holland and India, to both of which the export doubled. There is every prospect that in these directions the trade in copper will improve—to Holland in its unwrought state, and India wrought. The total value of our commerce in copper imports, re-exports of foreign, and exports of British, so far as can be collected from the Custom House Returns for the half-year, was over 5,250,000*l.* This is the appropriate place to notice brass. No imports are recorded; the exports were, therefore, of British make exclusively, and exceeded 250,000*l.* in value. Of course, copper enters largely into this amalgam. It is also appropriate in this place to notice that pyrites, which were not only of copper, but iron and sulphur—but they are not classified—were imported to the value of 890,863*l.*, of which there is no record of any having been exported again.

Copper and brass enter largely into machinery and hardware, of which there is not, nor indeed can be, any separate returns. It will thus be seen that our commerce in copper, in the abstract and in concrete, is one of the most important we have. Our commerce in lead is next in importance among the superior metals. For the half-year it has been of the total value of 1,514,151*l.* Two-thirds of this were imports of pig and sheet—a great increase upon the previous year, but during June there was a comparative falling off for the recent half-year and the corresponding months of similar periods, except June, 1876, when they were a trifle less. The exports of British lead for the half-year exceed those in the first half of previous years for some time, but during June, as compared with corresponding months, they were much out of proportion with the other months of the last half-year. The value return for June was 64,714*l.*, against 68,592*l.* the June previous, and 72,971*l.* the June previous to that. It has been suggested that our own mines are more active than at the beginning of the year. China continues to be by far the best customer we have; that country with the British colony of Hon Kong received to the declared value of 186,808*l.* The export to that country increases prodigiously; it was nearly 30 per cent. over the first six months of 1876, and 86 per cent. over those of 1875. Russia is our next best customer, but her import of the metal has fallen 33 per cent. as compared with last year, when it was 45 per cent. more than the year before. The explanation of this is that the Imperial War Minister laid in his stores last year in preparation for the war this. The trade with France declined one-fourth; it also declined 20 per cent. with Germany, stood equal as to Australia, a falling off of 50 per cent. from 1875. With the United States, although a very small quantity was taken in June, the increase for the half-year was 2½ times the export last year, and as compared with 1875 the comparison is very remarkable—it was for the first half of that year 11*l.*, against 35,264*l.* this. This trade with British India increased 33 per cent.

Tin is the next in the series of importance. Formerly it was not only first among the superior metals, but was the most important mineral production of England, but foreign producers have sold at a price which will not pay for the extract of the metal from our own deep mines, and, unfortunately for Cornwall, as yet the Australians only send us "stream tin," whereas large deposits of "mine tin" are found in New South Wales, Tasmania, and New Zealand. The prospect is brightened, however, by the increasing number of new uses to which the metal is put, and the acknowledged superiority of the English metal. The value of our commerce in it for the six months ending June 30 was 875,993*l.*, of which 532,453*l.* was for imports, 111,801*l.* re-exports of foreign tin, especially Banca, and 234,739*l.* British tin. The imports assumed the form of blocks, ingots, bars or slabs, and regulus. The estimate for exports of British was for tin unwrought; the manufactured article is so mixed up with other metals that the Custom House could not enumerate. Our best customer in the first half of last year was Russia—this year the United States. Russia, as in the case of lead, bought last year for military purposes. An American invention in cutting, rolling, stamping, and turning tin has increased the demand there for the unwrought metal. The United States took more than one-fourth of the whole of the British tin exported—nearly 2¾ times as much as in the corresponding period of 1875. France was the next best customer, taking one-fifth of the whole. During the month of June the export increased beyond the proportion of each month in the half-year; the declared value was 48,034*l.*—more than 6 per cent. over June twelve-months. Of this, America took 15,316*l.*—three times as much as in the previous June—and France took twice as much in the month as last year. The trade with Turkey declines, and last month was worse than ever.

There is an important item in the Tin Trade which is seldom taken into account in connection with it—Tin-Plates. This is always classed under iron, for the plates are lined or coated with tin to make them applicable to certain specific purposes. Tin-plates constitute a large export; the value has sometimes reached five millions a year. This last half-year it was 1,554,776*l.*, against 1,462,005*l.* last year, showing improvement, and the month shows a corresponding improvement. The proportionate value of tin to iron is not declared, but it must be an important matter in connection with our tin exports.

Zinc is an increasing commerce. Crude in cakes and manufactured taken together were of the value of 445,583*l.* The export of British spelter was only worth 58,126*l.*, and it is a decreasing export nearly in the same proportionate rates as the import advances. The market price is, however, well sustained, being nearly as steady as that of lead.

A considerable business is done in quicksilver; the total amounted to 463,493*l.*, of which 285,984*l.* was the value of imports, and 127,509*l.* of which was re-shipped. This is a rapidly diminishing commerce; last year in the same time the imports were of the declared value of 316,865*l.*, and in that of the year before 502,755*l.* The re-exports are nearly stationary, with a tendency to decline. It was reported last month that our trade in this metal was looking up, but the returns show the reverse, as the decline in the declared value for June was signal.

Altogether, inferred from the direct and indirect reports and returns, our trade in the superior metals is worth about 20,000,000*l.* a year, supposing the next half of this year to be only equal to the past. This is a prodigious trade in one direction, and ought to encourage the miner, metallurgist, metal merchant, and investor.

PROPOSED NATIONAL SOCIETY OF COLLIERY MANAGERS.

SIR,—The short article in the Journal of June 2 contains a very valuable suggestion on the above subject, and I have eagerly watched your several subsequent issues, expecting to see managers of greater authority and possessing more suitable abilities than myself coming forward to support the suggestion and endeavouring, through the columns of your own and kindred journals, to bring the proposition before the notice of colliery managers throughout the kingdom. That a society of this nature would prove a success if fairly started on sound principles and judiciously governed there cannot be the slightest doubt. By it the whole of the colliery managers of the United Kingdom might be knit together in friendly union, and each and all benefited immensely, not only in a worldly sense, but mutually and morally as well; and all that is required is for several managers to step forward and assist by their influence and pens to bring the scheme to a successful issue. For this laudable purpose I feel confident that the columns of the *Mining Journal* and the other leading journals of the trade will be freely thrown open for discussing the matter fully, and getting it put into such a form as will meet the views of the majority of those interested, and from what you have already done and said we may rely on having your own valuable suggestions in framing and maturing the scheme.

Something like the same idea may have more than once crossed the minds of many of the class it proposes to benefit, and the urgent necessity there is for a society of the kind makes me feel sure that if the numerous benefits to be derived from it were fully explained and understood by all, the scheme would receive that hearty support it so well deserves. The arguments that might be urged in favour of establishing such a society, and the advantages that might be derived from it if established on broad principles, are alike numerous. To point out a few only of the most prominent, and do even slight justice to the subject, will require a series of letters, and occupy much of your valuable space, but with your permission I will, as far as I am able, assist in bringing the matter forward; and, perhaps, other managers from the several different districts will also kindly give their opinions and assist in carrying through this very desirable object. The present and ever-increasing status of our profession ought to make us anxious above all to keep it advancing as it must needs advance, to make ourselves, by mutually assisting each other, worthy of filling the position of managers, and to provide for sick or infirm members of the profession and the families of those deceased in such a manner as would remove the blot from our name. The nature and objects of the society ought to be so extensive and wide as to embrace all that colliery managers could require or expect from such a society.

1.—The erection and support of some college or colleges at which students might be especially trained for the profession, and into which the members' sons might be admitted free or at a nominal charge.

2.—The mutual improvement and assistance of each other in the knowledge required for overcoming the ever-increasing difficulties of mining by the distribution of books and papers on mining; by each member contributing in the form of papers their opinions and experience on—and in connection with—difficult questions; by the members imparting to each other the methods and appliances in vogue in their respective districts; by having a branch society formed in each district through which its members might meet and converse on the state of trade, and generally to assist each other; and by having all these branches amalgamated in one grand national federation, so that the opinions of the whole of the colliery managers in the kingdom might be had on any question without much trouble.

3.—The advancement of the position of the profession in all worthy directions.

4.—The protection of the positions and characters of the members against injustice; by causing proceedings against any member to be watched on his behalf, and to assist him in vindicating his character, if possible, when he would otherwise be unable to do so for want of funds.

5.—Their relief in case of accident or sickness, and the relief and support of their widows and orphans in case of their being unprovided for at death.

These objects lay open a wide field for the operations of a society, and their achievement might well engage the attention of every colliery manager and well-wisher of the profession. While the society would be of great advantage to managers it would be so to coal-owners as well, as by this imparting of knowledge one to another knowledge would gradually become more equally diffused. Not that it would be taken from one member and given to another until all were alike in knowledge and ignorance, but the very effort of one imparting knowledge to another would enable him see in a clearer light himself, and give him an opportunity of feeling his own shortcomings and ignorance. We would not have a few clever managers and a great number of dull ones, but we would soon have a large number of clever ones and a few cleverer still. The former would receive the ideas and methods of thinking out questions of the latter, and if they remained dull long it would be pretty much their own fault.

Not to take up too much of your valuable space, I leave the subject here at present, trusting to see a very large number of your readers come forward and get something practical done in the matter.

Workington, July 11. TOM P. MARTIN, Colliery Manager.

MINING IN THE EAST—No. XVI.

CONTACT DEPOSITS OF THE BANAT.

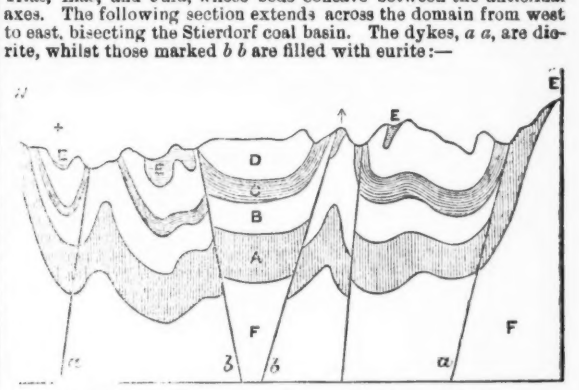
SIR,—The Banater Domain, which, roughly speaking, is co-extensive with the basin over which are spread the sedimentary formations, is throughout its northern extent occupied by the youngest beds of the carboniferous and by the trias; whilst across the central and southern regions prevail strata of cretaceous times, traversed by narrow parallel bands of Jura limestones, which prolong themselves from the Danube to Reschitza. Wherever seen the basset edges of the strata take a general direction 20° east of north, which is also the bearing of the granite range to the east.

As many of the sub-formations are composed of lime rock, most of the elevations are crested by calcareous crags and precipitous escarpments, through which break the Raras, Nera, and Pek, whose waters foaming down their rocky beds flow westward to mingle with the Danube. Throughout these wild and thinly-inhabited tracts the serpentining of the rivers have eroded valleys picturesque in the extreme; often the streams are confined for long distances in impassable ravines dominated by tall precipices of metamorphic lime-rock, or passing high hills through the ramifications of extensive caverns, grotesquely hung with stalactites, expand unexpectedly into verdant vales, besprinkled with flowers of every hue. Trees group themselves pleasantly on the prairies, and cling to the unassailable precipices which surround them. Occasionally is seen the wooden hut of the Wallachian squatter, whose life is imperceptibly consumed in pasturing his herds and flocks, and who, rarely leaving his secluded dale, is as ignorant of the outer world as insensible to the softening influences of the natural charms which surround him.

Above these sheltered glades are elevated undulating plateaux, which, exposed to the full force of the hibernal blasts, support but a scanty herbage where not covered by the primeval forests of pines which prevail in this region. These unsettled wilds are used as summer pasturage by the Wallachian peasants, who do not dwell on their farms, but cluster for mutual protection on the neighbouring plains in villages, often of considerable importance, where justice is administered by rural mayors. Their streets intersect each other at right angles, though the gable ends of the houses abutting on them and the dilapidated state of the cottages give the villages an antiquated appearance. The streets, or rather roads, are rendered peculiarly agreeable by mulberry trees, which a quarter of a century since were cultivated throughout the Banat to develope the silk-worm industry.

The mining towns are generally situated where the larger valleys debouch on to the plains; they are inconveniently long, owing to the narrowness of the valleys rarely permitting more than one street, which is crooked and narrow. Very picturesque and cheerful are these towns, with their terraces on each slope rising one over the other up the hills, intermingled with meadows, orchards, and vineyards, and often diversified by majestic cliffs.

The fossiliferous strata disclosed throughout the Banat domain range from the New Red Sandstone to the Neocomien, and have been upheaved into several parallel folds having a meridional direction. The result of the plutonic action has been to expose repeatedly the Trias, Lias, and Jura, whose beds concave between the anticlinal axes. The following section extends across the domain from west to east, bisecting the Stierdorf coal basin. The dykes, *a a*, are diorite, whilst those marked *b b* are filled with eurite:—



A.—Mica schist.
B.—New Red Sandstone.
C.—Lias coal measures.
D.—Jurassic beds.
E.—Chalk.
F.—Eruptive rock.

NEW RED SANDSTONE.

This formation reposes immediately on the gneiss, and being non-fossiliferous its age cannot be accurately determined, but it is in all probability newer than the *Todt-liegende*. The strata are mostly composed of debris from the old crystalline schists on which it rests.

LIAS COAL MEASURES.

KEUPER SANDSTEIN.—These beds are about 200 fms. thick, and from the scarcity of iron in them are very light in colour; they consist of fine conglomerates and sandstones; in the latter are five coal seams. The main coal, from 9 to 12 ft. thick, together with a seam 3 to 4 ft. thick, are found in the superior beds of this formation. The importance of this coal to the district may be recognised when it is known that the output is 500 tons daily, and that the coal and iron industries support a population of 12,000.

KEUPER SCHISTS.—These rest conformably on the sandstones, and are remarkable for the quantity of iron ore and bitumen which they contain. The bituminous slates produce 12,000 tons of raw oil annually.

JURA.

This formation consists of beds deposited conformably:—

MARLY SLATES, of which the lower portion is sandy, whilst the superior beds are slaty.

CONCRETIONARY LIMESTONE (Schwartzen Jura) is composed of—1, clayey limestones; 2, slates with crinoids; 3, light-grey hard limestone, with quartz nodules; 4, dark-coloured limestones, in beds about 3 ft. thick, with belemnites.

WEISSER JURA.—This formation is co-extensive with the concretionary limestone, and may be separated into two groups. The lower group, which is composed of dark limestone, poor in silica, is found in highly regular beds, much used as building stone. The upper group is much thicker, and the gray limestone of which it consists encloses occasional hornstone lumps. This limestone lies in noble beds, having a compact texture and splintery fracture.

NEOCOMIEN.

These cretaceous strata may be divided into three groups:—

LOWER NEOCOMIEN.—Marly slates and thin bedded clayey limestones.

JUDINA KALK.—This limestone is very extensive, and of a character extremely changeable; in colour it is white and light grey, with a splendid conchoidal fracture. Numerous funnel-shape depressions occur over its surface leading to subterraneous channels and hollows, which often develope into immense ramifying caverns, whose roofs are resplendent with pendant stalactites; some of them are filled with clay, containing iron ores.

UPPER NEOCOMIEN.—The Rudisten Kalk is separated from the Judina beds by a fine-grained thin bedded calciferous sandstone, which contains an extraordinary number of *orbituliten*; this limestone is found in strata of a light-grey colour.

All these sedimentary formations succeed each other conformably, and are remarkable for the quantity of lime they contain. In the vicinity of Szaska, near Rohldorf, exists a small basin of cretaceous strata ½ mile long, consisting, according to Schröckenstein, of 800 ft.

of marls, sandstones, and conglomerates, which he considers parallel to Wealden clay, Hastings sand, and Purbeck beds.

The GRANITE, which skirts these sedimentary rocks to the east, forms a range of rounded eminences about 1¼ mile in breadth, which at the highest points, Muntje, Semenik, and Piatra Nedjei, attain respectively 4757 and 4691 ft. above the level of the sea; it has broken through cretaceous limestone and schists, and its junction with the former has induced some small deposits of manganese and iron. The granite contains no hornblende except in some small tracts where orthoclase abounds, and even there the mica is much the most abundant. Both white and dark brown mica are found; it shades off into gneiss and mica schist, and sometimes the felspar becomes so scarce that a singular rock, called Weisstein, ensues, composed of quartz, cemented by felspar granulite.

SYENITE OR BANATITE.—The syenite is the youngest rock in the district, and similarly to the granite has broken through the mica schists and disrupted Jura and cretaceous strata, probably during Neogen times. The principal range of syenite extends in a lineal direction from Cuchaina 6° east of north to Bocschan, but outside this district the same eruptive rock often occurs, having no dependence on such a line. Some of these rocks have a granitic appearance, though generally they bear a greater resemblance to syenite; they are, however, so varied in texture and composition that it is very difficult to class them petrographically. Von Cotta has, therefore, preferred to call them Banatite, and under this appellation, which refers to the province in which they are best developed, he includes all eruptive masses, which are newer than the chalk or older than trap. Von Cotta remarks that "a careful examination of the various eruptions shows that they differ from typical granite, principally on account of the small quantity of quartz contained, which sometimes scarcely seems to have existence, having been kept away by the formation of plagioclastic felspar and hornblende, whilst on the other hand they do not resemble true syenite in consequence of the prevalence of this felspar with much dark mica, and the frequent paucity of hornblende."

These rocks are by the miners termed porphyry, because near the ore deposits they appear as a green or greyish mass, of a compact or finely crystalline texture, containing crystals of felspar and hornblende, which, when not weathered, are very perfect. Subordinately the Banatite contains magnetite, titanite, pistacite, and orthoclase, and in one place even angite.

The syenite rarely appears occupying elevated positions, but usually forms low hills and ridges, or is exposed in valleys, so that the sedimentary rocks which it has disturbed rises to much greater heights. The eruptive masses possess each its distinctive character, though easily recognised as belonging to the Banatite; it is, therefore, clear that neither their texture nor their proximate composition can be referred to the period of the upheaval, but rather to the reaction of the contact rocks during consolidation.

The limited spaces filled by the erupted syenite renders it improbable that it ever reached the surface *en masse* at the time of the upheaval, though an attentive consideration of the nature of the contact phenomena would incline one to believe that the overlying thickness of strata could not have been great, and this thickness may, perhaps, have been least at the northern extremity of the deposits where the Banatite appears in most extensive masses, as going southward the portions exposed decrease in dimensions until at Cuchaina and Maidanpek very little eruptive rock can be noticed. However this may be, no rocks have yet been met with that indicate volcanic action, although at Roschovitz and Eisenstein the syenite may have and probably did force itself between the lime rock and the overlying rocks, and perhaps reached the then existent surface.

The felspar is both compact and crystalline, and is, of course, the prevailing mineral in all these rocks; when in crystals the faces are delicately striated, and in colour it varies from light yellow to flesh red, but when weathered is dead white. The mica is generally dark, though often white mica is largely present in pearly scales. The quartz is frequently dirty white, and in some masses undistinguishable, though in others prevailing—for example, at Cuchaina, where large and perfect diploedon crystals are dispersed regularly through a trachytic base. The hornblende is generally scarce in the masses of Banatite, where the crystals are small, though forming the principal constituent of the rocks immediately adjacent. Not only are the different syenitic masses exposed distinct in character, but the normal condition of each has been transformed in the most perplexing manner near its contact with the surrounding rocks into diorite, cornean, minette, hornblende rock, quartz porphyry, &c. The ultimate composition of the syenites is almost as changeable as the manner in which their constituents are mingled, and the silica contained ranges from 55 to 68 per cent., so that many of them may be considered basic. Everywhere the syenitic rock is near its junction with the rocks it has metamorphosed peculiarly sensitive to weathering influences; this decomposition appears to be due in a great measure to the pressure of fine crystals of pyrites, but whenever the true mass of the eruptive rock is reached, it is found hard and compact, and is comparatively unaffected by the atmosphere.

Dognacska, June 23. EMPRESSARIO.

THE CAPE COPPER COMPANY.

SIR,—It is, as your correspondent says, truly remarkable that the Cape Copper Mine should be able to maintain its dividend with the unit of copper at 13s. 6d., but I venture to say that were the price even to go lower the dividend could be maintained. The limit of the monthly output is by no means yet reached, nor is the limit up to which the ores can be dressed, and nothing is easier for this company than to keep a heap of rich ores in the colony to ship off to meet any further fall in price. Nowhere are there such rich ores, nowhere is labour so cheap and abundant, and the climate permits of working the mines and shipping off the stuff all the year round. The fact of the construction of a railway of 100 miles in length is a sufficient guarantee of the lasting nature of the deposits, or Messrs. Taylor and Son never would have undertaken or advised it, nor would the Cape Government have ever voted money for the improvement of Port Nolloth, in order to develope the fine mineral property the shareholders have in Namaqualand. It is a property quite beyond the risk of ordinary mining venture. With such facts before one the shareholders can hear with perfect equanimity the reports so often circulated by Messrs. Brain and Co. that the mines are worked out.—*London, July* 11. E. J. B.

THE YORKE PENINSULA MINING COMPANY.

SIR,—The above company is unquestionably one of the soundest, most promising, and most honestly conducted of the present time, the freehold properties alone affording good security to the shareholders, independently of the great mineral wealth comprised in them, and already resulting in the sale of large quantities of rich copper ore. Besides being possessed of the Kurilla Mine, a freehold of 80 acres, which produced during the first three months of the present year ore that realised 4500*l*., showing a considerable profit, and which promises to vie with its close neighbours, the Wallaroo and Moonta Mines, of world-wide fame, the Yorke Peninsula Company has also the Duryea Mine, a freehold of 80 acres, situated between those two famous mines, and provided with engines, &c., ready for working—through both of which properties (the Kurilla and Duryea) a railway passes to the neighbouring port of Wallaroo. They have also the Bon Accord Mine, freehold, within a few yards of the present workings of the noted Burra Burra Mine, from which large quantities of ore are now being raised—the Bon Accord having a powerful Cornish engine erected ready for working. The Yorke Peninsula Company has also a magnificent freehold property of about 700 acres, upon which the terminus of the railway to Adelaide has been erected, and the township of Aberdeen (87 acres) has been laid out, and is already yielding considerable revenue by the sale of building plots, which are steadily increasing in value. All these properties form a security second to none that I have met with, independently of the mineral deposits. The board of direction in London is of the most respectable and working order, refusing all remuneration till dividends are paid; and a committee in Australia consists of some of the best men in Adelaide. These are the grounds upon which I have formed a very favourable opinion of this company. The ordinary shares have not yet received a dividend. The preference shares, 15 per cent. accumulative, are now receiving their arrears of 8s. 3d. per 1*l.* share in similar shares, so that in future the dividend may be uniformly payable from July 1.

The price at which these shares stand in the market can only arise from the merits and prospects of this most promising undertaking being altogether overlooked by the general public.

July 11. INVESTIGATOR.

THE AMAZONAS GOLD QUARTZ MINING COMPANY, AND THE HYDRAULIC MINING COMPANY OF CATAPILCO, CHILE.

AMERICAN CAPITAL ON ITS WAY TO CHILE.

SIR,—I am happy to inform you, from letters recently received from New York, that the two above companies have been successfully incorporated there, the promoters having sent out the necessary machinery and funds for working them on a large scale. The Amazonas Mines were acquired by a Mr. Thorner, Mr. John Sewell, and your humble servant. These mines were opened up by ourselves previously to their sale in New York for a period of ten months; during that time about 1000 tons of refuse ores, left by the Spaniards, were sorted and collected. The assays averaged between $15 and $20 per ton of fine gold, without any pyrites. The dumps were carefully sampled; it was calculated by the engineer sent out from New York that these refuse ores averaged between $10 and $15 to the ton, and the quantity about 15,000 tons, equal altogether to about $180,000 worth of ores at surface. The situation of these mines is about seven miles from a good seaport, and 30 miles from Valparaiso, a good cart road exists all the way to the mines.

According to the old archives left by the Spaniards it is known that three levels, with visible gold in the quartz, had to be abandoned in consequence of the amount of water which deluged the mine. No attempt has at yet been made to employ pumps or any class of machinery since they were left by the Spaniards. The American engineer ascertained all these facts personally, and therefore satisfied the promoters of the truth of the past history of this mine, and consequently they are highly elated at their purchase. The American company is called the Amazonas Gold Quartz and Hydraulic Mining Company of New York and Chile.

HENRY SEWELL, M.E., F.R.G.S.

10, *Upper Westbourne-terrace, July* 12.

EXCHEQUER GOLD AND SILVER MINING COMPANY (LIMITED).

SIR,—It would be unbecoming on our part to trespass on your space by referring to the general statements in a circular just issued to the shareholders; but we beg to state that having no connection with the Journal we are independent of it, except as the medium to publish information concerning mines—a privilege that has been for many years fully appreciated by— F. W. MANSELL AND CO.

Palmerston Buildings, E.C., July 12.

LEAD AND BLENDE ORES—HULTAFALL MINE.

SIR,—In connection with the discussion which has appeared in the *Mining Journal* with reference to the treatment of the combined lead and blende ores found in the Orebro district, it may be interesting to state that quite recently Mr. F. Maxwell-Lyte, an English chemist of considerable experience and reputation in Paris, and a member of our club, has patented an invention which would appear to be well calculated to meet the difficulty in question. In practically carrying out Mr. Maxwell-Lyte's invention the ore, should it contain sulphurets, as is the case I presume with the Hultafall ores, should be first calcined to fairly sweet condition, and should be finely pulverised; the pulverised materials are then placed in a pan or vessel made of some material which resists the action of hydrochloric acid—such, for instance, as pitch pine, stone, stoneware, timber injected with tar or petroleum, or a stout lead-lined tub will answer, and lasts a very long time. The vessel or tub should be furnished interiorly with a steam coil for heating purposes, and if large should be furnished with a mechanical stirrer, also made of material capable of resisting as much as possible the attacks of hydrochloric acid. Over the ore thus placed in a vessel or tub the quantity of hydrochloric acid that may be considered necessary in the particular case, having regard to the materials under treatment, is then poured, and heat is applied by the steam coil, and the liquid is kept well stirred or agitated. The strength of the acid employed should be below that at which fumes are given off in the cold—say, 1·02. Equal parts of strong commercial muriatic acid and water answer well so as to avoid inconvenience to the workmen, and the quantity of acid to be employed is regulated according to the quantity and nature of the matters capable of chloridisation which the material to be operated on may contain, when the action of the acid may be considered to be completed all the zinc present should have passed into solution, together with iron or any other metallic or earthly bases present which may have become sufficiently chloridised. The chlorides of lead and silver, if either of these metals were present, will in some cases be found to have remained partially insoluble in the hot solution.

When the precipitates from the hot solution have been allowed to settle, the clear solution containing the zinc and other soluble chlorides is decanted while still hot into another vessel, where, on cooling, nearly the whole of the dissolved lead chloride is deposited in a crystalline form. The supernatant liquid is then drawn off from this deposit, and is re-decanted back into the attacking vessel or tub, which is again heated. The liquid then takes up a fresh quantity of lead chloride, and is again decanted back hot into the depositing vat, where, on cooling, it gives up a fresh crop of crystals of lead chloride. By this method the gangue or residue of the ore may be exhausted by successive decantations, heating, and cooling of all the lead and silver chloride it may contain. The silver, if, as is frequently the case, any is present, is taken up by and carried over with the lead chloride, and precipitates with it. This process of decantation may not be always necessary where, for instance, the gangue may not be in such quantity or of such nature as to interfere with the subsequent treatment of the undissolved precipitate left in the vessel or tub for the extraction of the metallic lead. In either of the above cases into the liquor containing the precipitate, whether with or without the gangue, are plunged one or more bars or pieces of some filings of zinc. Lumps of what is known as hard spelter answer well, and are cheaper than any other form of zinc. Much hydrogen is now disengaged, the spelter dissolves, augmenting the quantity of zinc chloride in solution, while the silver and lead are reduced together to the condition of a spongy metallic precipitate. When the precipitates are deposited they are collected, thoroughly washed with plain water, and finally agglomerated by pressure into bricks or lumps fit for smelting: special care should be taken to thoroughly wash all the soluble chlorides out of the lead sponge before pressing and for this purpose it will be found highly advantageous to perform the operation in a centrifugal machine, such as those used in sugar refineries. Should much chloride remain with the lead it is liable to cause waste by volatilisation during the smelting, and to injure the furnace by fluxing the bricks. It now remains to treat the zinc chloride solution with a view to recover the zinc in the metallic state. The liquid is first neutralised cold by adding chalk or carbonate of lime. The liquid is allowed to settle, and the clear portion decanted off. It is now to be heated to boiling, or thereabouts, and carefully elutriated milk of lime is to be run in the liquid, being kept constantly agitated. The following points should be observed:—The lime should be added to the liquid zinc chloride while the latter is kept hot. By this means a denser precipitate, which settles more easily, is obtained. The lime should only be added in quantity barely sufficient to precipitate all the oxide of zinc. It is, indeed, safer to leave a small trace of zinc still in solution, so as to ensure there being no excess of lime. The greatest care should be observed to avoid the formation of any lumps or clots during precipitation.

The milk of lime should be itself smooth and free from clots, and for further precaution may be fed through a fine sieve, while the hot zinc chloride should be kept well stirred and agitated; naked steam from a blow-up driven into the liquid much assists in this part of the operation. The zinc precipitate should now be well washed with water by successive decantations, or may be washed in a centrifugal machine or a filter press, and is finally to be pressed into lumps or bricks in any machine adapted for this purpose. The principal aim of all this washing and pressing is to get rid to the utmost extent of all the chloride of calcium contained in the liquid thereby separated, as lime or lime salts will act injuriously on the retorts. The present bricks or lumps, consisting of precipitates of more ore or less impure zinc oxide, are to be used as a kind of artificial ore, like calcined blende or calamine, for the distillation of metallic zinc.

It is but fair to Mr. Maxwell-Lyte to state that his process was not specially devised for the treatment of Hultafall ores, so that if it were applied to the treatment of those ores he might require modifying somewhat. Indeed, it is capable of considerable modification, as he himself suggested that it might be modified so as to be adaptable to Nevada silver ores. In that case the ore pulverised and calcined or not, as may be found advisable, is placed in the attacking vessel and treated as above with hydrochloric acid and a quantity of calcined galena lead, sulphate lead, oxide, or other lead compound, in fine powder and in quantity proportioned to that of the silver in the ore—say, 100 to 2 of silver, should be added. It is a good plan on adding the hydrochloric acid to add a certain quantity of some material capable of generating chlorine, so as more rapidly to decompose the sulphurets and to chloridise any metallic silver or gold and bring those metals into solution. Red lead employed in place of or mixed with the litharge or other lead compound employed is a good addition in this respect; but the peroxide of manganese, bleaching powder, chlorates, nitric acid, or nitrates, &c., may be more or less advantageously employed. The lead chloride being removed from the gangue by successive decantations, as above, removes with it all the gold and silver. The lead chloride, and with it the gold and silver, are reduced, as above, with metallic zinc, the precious metals are seperated from the lead by any of the usual methods, and the zinc may also be recovered as already explained. The whole process appears to me to be very simple, but no doubt the inventor would give further details if desired.

Scientific Club, Saville-row, July 9. T. M. H.

MECHANICAL PUDDLING.

SIR,—Some ten or twelve years since a large amount of attention was directed to the mechanical puddler introduced by Mr. John Griffiths, of Derby, and a great many practical puddlers were of opinion that it would greatly assist the puddling process, if it did not supersede hand-puddling altogether. But, like all new inventions, there were slight errors in detail which required correction, and prevented complete success. Some improvements and modifications of Mr. Griffiths' invention have now been made by Mr. Joseph Trow, of Dudley, who proposes to support the whole of the machinery upon and above a bed-plate, and by means of bearers the said bed-plate is supported sufficiently clear of the furnace to permit of repairs, or even the re-building of the furnace, without inconvenience. Instead of connecting the driving shaft of the machinery to the steam-engine or prime mover by means of a clutch, he employs fast and loose pulleys for that purpose. By the use of two fast pulleys of large diameter, connected respectively with trains of toothed wheels giving different velocities, he can drive the machinery at a quicker or slower speed. The driving by means of pulleys gives great smoothness to the working of the machinery. He supports the vertical shaft carrying the crank, by which a reciprocating motion is given to the pendulous tool holder, by means of a vase-shaped support, in the upper and lower parts of which the said shaft has its bearings. He makes these bearings much larger than bearings are ordinarily made, in order to enable them the better to resist the great strain and wear to which they are exposed. Besides giving great steadiness to the shaft supported by it, the said vase-shaped support protects the bevil gear working in it from dust and injury.

The motion of the crank described communicates a reciprocating motion to the tool holder by means of a connecting rod, and in order to prevent any obstruction to the motion of the tool resulting in damage to the machinery he makes the said connecting rod elastic, or capable of yielding longitudinally. That is to say, he makes the connecting rod in two parts, so connected that one part can slide upon the other, and all parts are retained in their normal positions by means of strong coiled springs, which yield under pressure, and thereby allow of the lengthening or shortening of the connecting rod. By means of this elastic connecting rod the manipulation of the iron and steel is more under control, and greater facility of working obtained than when a rigid connecting rod is used. He makes the disc or plate which carries the bracket from which the tool holder hangs of an annular figure, and gives great freedom and steadiness of motion thereto by the means he employs to support it. The said annular disc or plate is supported on a series of rollers, on which it moves with great facility. The inner annular edge of the disc has in section a figure somewhat resembling the letter Z. This figure of the inner edge of the disc permits of the said edge engaging with the edge of a strong circular brush, forming the base of the vase-shaped support of the vertical axis, by which great steadiness is given to the motion of the said disc. In order to give the required reciprocating rotary motion to the said disc, he employs a worm on the horizontal driving shaft, the said worm gearing with a tangent wheel on a vertical shaft. On the axis of the last-named wheel a crank is fixed, and a connecting rod (which he prefers to make elastic or capable of yielding) communicates from this crank the required reciprocating motion to the disc. The two motions described give the required motion to the rabble or puddling tool. I do not know whether the new arrangement has yet been practically tried, but judging from the description it certainly seems worth testing. PUDDLER.

July 11.

THE COPPER TRADE, AND CORNISH MINES.

SIR,—Such enormous quantities of copper ore, regulus, and sundries continue to pour into the market that any material advance upon present prices can scarcely be looked for—indeed, 12s. 6d. per unit for 6¾ per cent. ore and 13s. 8d. for 15 per cent. is not at all a bad price, and there is reason why with economy and judgment the majority of Cornish and Devon copper mines should not be returning profits. We all know that the price of labour has gone down considerably, and that machinery can be had at almost any price, owing to the large quantity lying idle and in the market. All that is required to restore prosperity to the western counties is a return to the old system of forming companies to work the mines. Let the adventurers have the mines at the price which the lord really receives for them, and even with present prices for copper the good old-fashioned dividends of 50 per cent., 100 per cent., and more upon the outlay will again become common. If it be true, as has been stated, that the Cornish and Devon mine lords have suffered as much from the depression as the adventurers why do they not apply the remedy which is entirely in their own hands? Let any mine lord that has an ore-producing mine lying idle publicly announce that he will *give* the lease to any set of adventurers who will guarantee to pay lawyers' charges for conveyance, and provide a given sum (such sum to be the amount estimated to be necessary by some competent and independent mining engineer), and I am sure that the capital would be forthcoming if it were 10,000*l*., which is far more than any of the mines were in olden times commenced with.

The securing of the requisite capital (it must be remembered that nothing but working capital is to be raised, and that not a penny beyond conveyance and registration charges is to be expended upon working the mine) by the adoption of a slight modification of the Cost-book system, with the protection of limited liability—that is to say, the capital should be fixed at the 10,000*l*., but the rules should provide that calls should only be made as authorised by the Stannaries Acts for Cost-book mines—that the calls should only suffice to cover expenditure actually made, and the estimated requirements for the coming three months, and it should be further provided that none but fully paid shares should be transferable. For some time past mining has been replaced by share jobbing; and

the probability of making the mines profitable being removed, less has been thought of making a mine than of making a market for the shares. The arrangement suggested is a remedy. Every attempt to job in the shares improves the position of the legitimate investor at the expense of the share jobber, so that the investors' ultimate prosperity being ensured their confidence will be restored, and they will be quite willing to provide funds. It is the confidence of those who embark in mines as an investment, and not the good opinion of the jobbers, too often almost penniless, that is necessary to secure prosperity in mining, and this is the reason so little is heard upon the market of mines honestly managed—such as those under the control of Messrs. John Taylor and Sons—the support in that case being given by the capitalist direct, and with the object of making the mine permanently valuable.

The advantage of the system suggested is not difficult to be understood. Assuming the company to be formed with a capital of 10,000*l.*, divided into shares of 5*l.* each, and 1500*l.* is forthwith required to buy machinery and carry on the mine for three months. Assume, further, that the expense of conveyance and registration is 250*l.*, and the cost of advertising and floating the company another 250*l.* Again, suppose that the mining expenditure averages 200*l.* per month, that the mine produces no ore for market for the first 12 months, and that for the following two years the expenditure exceeds the returns by 100*l.* per month, the mine cost in the second and third year averaging 500*l.* per month. Now, what would be the position of the mine and of the mine adventurers? By taking these averages for the beginning of the terms an unfavourable turn is given against the mine, yet it will be seen that the position of all concerned is eminently satisfactory.

The first amount required is 1500*l.* and two 250*l.*=2000*l.*, so that 1*l.* per share must be paid upon allotment. Calls of 6s. per share will be required at each of the first four quarterly meetings, and calls of 3s. per share will be necessary at the succeeding eight quarterly meetings. Thus 3*l.* 8s. per share will have been called up in three years. The amount expended upon the working of the mine during the period will have been 5900*l.* from calls, and (during the second and third years) 9600*l.* from ore—together 15,500*l.*, and the company will still have a reserve of 3200*l.* for contingencies in the shape of uncalled capital.

As any adventurer transferring a share would have to pay up the whole 5*l.*, no permanent holder could be prejudiced by the default of transferor or transferee, whilst the fact that dividends would be declared at per share and not upon the amount paid up, the *bona fide* investor would always be in a better position by about 20 per cent. than the outside purchaser, or, in other words, supposing the dividends to be only 10s. per share per quarter (which would be small for a mine opened up in the thoroughly legitimate and liberal way suggested) the *bona fide* investor would receive 2*l.* per annum on an investment of 3*l.* 8s., or within a fraction of 60*l.* per cent. interest for his money, whilst the transferee would receive but 2*l.* on 5*l.*, or 40 per cent.—a difference which should be quite sufficient to induce everyone to hold on, unless they were compelled by absolute necessity to dispose of their property. The inducement to sell whilst the mine was in its progressive state would moreover be further diminished by the amount required to be paid up; thus at the end of the first year only 2*l.* 4s. would have been called, but the transferror would have to pay an additional 2*l.* 16s. per share to enable him to sell, and this, too, would be almost an extra premium levied upon the purchaser.—*Redruth, July* 11. ——— C. B.

THE ROYAL AGRICULTURAL SHOW AT LIVERPOOL.

SIR,—I have already spent three days at the Show, and with your permission I will give a short account of what I have observed there, more or less attentively. No more fitting place in England, perhaps, could be found than Newnham Park for an exhibition of things whereof the nation stands first in excellence, and of which she may well be proud.

The Show this year in dimensions is beyond all precedent, being enclosed within an area of 70 acres of grass land, and affording to exhibitors nearly three miles lineal of canvas-covered stands, offering 6000*l.* in prizes. Those who are old enough to recollect the annual "sheep-shearings" of that truly "fine old English gentleman" *Mr.* Coke of Holkham, and to contrast what were the implement-wonders of that olden time with the marvels of ingenuity in the same line of utility of the present day, cannot help feeling startled at the rapidity with which mechanical contrivances have been striding over the ground in every direction wherever reduction in manual labour-cost could be effected. There can be no mistake about one thing, and that is those industrials who "do" the Show thoroughly by Saturday will be most grateful for the intervention of "the day of rest." The body most certainly will have had enough of it; and the mind as surely will either have been well stocked with new and practical ideas, or else hopelessly bewildered with the apparently endless variety of the inventions exhibited.

People err, I think, if they say the *Mining Journal* readers have nothing to do with agricultural shows. They have just as much interest in things exhibited in such places as other people. All the readers are not miners. Many miners are agriculturists. Everybody who disturbs the surface of the earth is a sort of miner. He digs, in some way, for what he can get out of it. Not a very long time ago everything dug out of the earth (except small potatoes, &c.) was called "fossil." Since then the term has been limited to "organic remains," and the earth's component parts have been called inorganic substances, or "minerals." Those who dig minerals for the minerals sake, as you, doubtless, have heard before, are called miners, and the operation called mining. The *Mining Journal*, of course, records the scientific progress of miners. Agriculturists, comparatively, are surface miners, it is true, but what of that? All miners must begin at the surface, and for that reason alone I think remarks upon the machinery, &c., of the Agricultural Show in your pages are not altogether out of place.

I have been examining the principal implements in something like the following order:—The various things used to till the earth; the things used to put seeds into it; the things used to facilitate its growth, &c.; the things used for the harvesting of crops; for threshing out and dressing grain, &c.; for preparing it as food of various kinds, &c. This kind of analysis has interested me very much, and I hope some of your readers will be interested too. This done, perhaps it will be seen that mineral matter is literally the groundwork of all agricultural proceedings, and that your Journal is not at all an inappropriate place to record them.

Implements, &c.: I may mention, in the first place, that the catalogue of this department of the show is comprised within 464 pages. There are 428 stands and 6930 exhibits. Beginning with the things for tilling the ground, there are—agricultural tools of every kind, diggers, cultivators, ploughs, of sorts known as single, double, treble, quadruple, combined, convertible, revolving, paring, digging, trenching, subsoil, deep soil, pulverising, moulding, dredging, ditching, drill, swing, turf, stubble, pony, single-horse, double-horse, treble-horse, four-horse, steam ploughs, &c. Improvement in this kind of adaptation, I should think, can no further go. Next come clod-crushers, grubbers, scarifiers, scuffers, horse-hoes, and steam cultivators. There are, also, chain, chisel, tine, chain, drag, drill, grass, and turn harrows. Barley, turnip, field, park, and pulverising rollers. For putting seed into the ground, &c., there are broadcast machines, drills of numberless sorts, simple and complicated, potato-planters, &c. For harvesting crops there are all kinds of ingenious things, some of them—especially the reapers—very dangerous looking. The mowing-machines are curiosities in their way—one of them collects the wheat when cut, binds it in sheaves very cleverly with strings, and lets each sheaf drop as it travels. This is an English invention, which has yet to be tried in the field. There are also corn-lifters for laid crops, haymakers and elevators, potato-raisers, blowers for drying hay, corn-dryers, straw and corn elevators, stacking-machines, stubble-rakes, and horse-rakes. Forks in wonderful variety, such as barley, coal, coke, tan, corn, digging, hay, malt, manure, potatoe, spading, stable, straw, &c.

Next follow:—Aspirators; threshing and finishing machines; barley avellers, horners, and hummellers; bean cutters and kibblers; blowers and fans; potatoe riddlers and samplers; corn separators and cleaners; corn screens; straw cutters; root cutters; winnowers and winnowing machines; wheat-crushing machines; turnip-top and tailing machines; smut machines; dressing machines (in endless variety); gorse cutting machines; root washers and cleaners. Things more or less used in the preparation of food stuffs: Churns, cheese-making utensils, dairy utensils (in wonderful variety), apple mills and cider pressers, flour mills, dressers, and mixers, turnip cutters, slicers and strippers, bran cleavers and offal separaters, bran-dusting machines, chaff cutters (hand, horse, and steam), gorse-brushing machines, coke breakers, cutters, and mills, disintegraters, root pulpers and graters, butter-washing machines, grinding machines. Of mills there are—bean, maize, bone, condiment, corn, crushing, bruising, flour, gorse, kibbling, linseed, malt, oat, oilcake, porcelain, post, roller, and "universal" mills. For the rearing and taking care of animals are extraordinarily useful things. For example—Stable fittings and stables fitted up, cattle cribs, hurdles, troughs, tanks, bins, &c. There is an invention called Lac Trephoer, a contrivance for the rearing of motherless lambs, calves, pigs, and puppies—any number of them at a time. It is a feeding trough, with artificial teats. There are gates, posts, and stiles, hurdles, rail fencing and palisading in most elegant variety, piggeries and poultry houses on improved principles, &c. Of horse gearing there is a large accumulation. Harness of all sorts. Whippletrees, pomeltrees, swingletrees, &c.

For domestic purposes, *inter alia*, there are apple parers, baths of all sorts, bread-cutting machines, washing machines, buckets, tilters, cellarets, chimney tops, cinder sifters, cisterns, coffee mills, cooking dishes and stoves, drying closet (one of the most important innovations), freezing machines, all sorts of garden chairs, tables, seats, stools, lounges, and ornaments, knife-cleaning machines, lawn mowers, linen presses, mangles, portable larders, mincing machines, pea-shelling machines, potato-mashing machines, refrigerators, sausage and meat chopping machines, sausage blocks, choppers and fillers, stench traps, stoves, grates, ranges, ventilators, vegetable choppers, vermin traps, wringing and mangling machines, baby carriages, clothes horses, cucumber slices, egg beaters and poachers, nutmeg and spice graters, onion slicers, pie making machines, potato slicers, sad irons for shirts, tobacco-cutting knives and boards, vegetable boilers and slicers, &c.

Of engines in general there are gas, steam, hot-air, locomotive, and irrigation. Of steam-engines, portable and fixed, there seem to be hundreds, in size ranging, as one might say, from single-donkey to double-elephant power. Surely perfection has almost been reached in this important branch of business. The large number at work simultaneously presents to the on-looker a work-shop of almost impossible dimensions and variety. Work, from steam sausage-chopping to steam newspaper-printing, is constantly going on. The whizzing of the engines frightens many curious ladies, country curates, &c. Steam-boilers also abound in the show.

Conveyances abound. Of carts there are builder's, butcher's, baker's, grocer's, miller's, milk, cattle, coal, dog, harvest, market, parcel, pony, sanitary, watering, tip, tumbling, sack, &c. Of wagons—harvest, maltster's, miller's, and locomotive. Of vans—delivery, grocer's, tradesman's, and sleeping. Lorries, drays, and cattle conveyances. Above all is a railway called "Decauville's patent iron carrier." This is announced as "the strongest and most economical fixed or portable railway, replacing with advantage wheelbarrows and carts." Simplicity and economy are here so obvious that all who want long or short lines of rails to carry ordinary loads of 2 or 3 tons in fractions of 5 or 6 cwts. had better have an eye to this adaptation. The rails weigh about 9 lbs. per linear yard.

Luxurious conveyances for farm gentry and other indirectly interested in agriculture—there are ordinary gigs, dennett gigs, shooting-carts, dog-carts, waggonettes, Broughams, landaus, Phætons, drags of all sorts, cabs, barouches, Stanhopes, Battlesden cars, Victorias, omnibuses, Brougham cabs, Gorst gigs, waggonette buses, Siamese Phætons, basket carriages, Alexandras, Aræos, Hansoms, Whitechapels, Soterias, Lorne cars, tandem carts, swing-seat waggonettes, to enable farmers' wives to take or leave their seats in the front part without the inconvenience of getting over the front wheel, the present fashion of ladies' dress requiring this consideration. Dangerous conveyances—bicycles, one 8 or 9 ft. high.

The foregoing is a list of some of the things exhibited. Fortunately, their names, most of them, suggest their respective uses. In my opinion they are all more or less meritorious. The show-yard appears to contain "everything you can think of," as one of the visitors (not the Emperor of the Brazils) said yesterday.

If this communication proves admissible, I will, next week, drop you a line as to what I am going to look at to-day, Friday, Saturday, and Monday.—*Liverpool, July* 12. R.

Mr. H. R. MARSDEN exhibits at stand 338 two of his well-known and highly appreciated stone-breakers and ore-crushers—the one a 12 by 5 at mouth, on feet, the other a 20 by 9, on wheels, for travelling, and also fitted with the patent screening apparatus invented by him, by which means the material is automatically divided as broken by the machine into the several different sizes required; but what has to be noticed more particularly in reference to this aptly styled "father of all machines" is a newly patented invention by Mr. Marsden, called the New Patent Reversible Jaw. These are of two kinds—one for use when it is required to break only to a needed size, as is the case when road metal is wanted, and the other for crushing purposes. It is necessary to explain somewhat the principle of this protected patent to enable our readers fully to understand the great saving in money, time, and labour effected by its use. It will be remembered that the wearing part of the machine is the jaw, and when, under the old style, this was worn out it had to be replaced by a new one at some little cost; but now the main portion of the jaw, which is called the stock, is on one piece, and the faces or wearing sides of it are two separate small castings, placed in position in the stock and kept there by undercut lips and a wedge with bolt and nuts; so that when the said faces are worn down they can be reversed—*i.e.*, turned upside down (and hence the name patent reversible), when they will go through the same amount of work as before; and when quite worn out are easily replaced by any unskilled workman in about 20 minutes with another, which, as before named, is a comparatively light casting. There is another point to be borne in mind—no white metal is used as previously, the faces having planed fitting strips against which the fixed jaw bears. We cannot say more in favour of these machines than has already been said at different times by ourselves and our contemporaries; but this latest patent is the most decided advantage Mr. Marsden has given to the public, and must not, in actual self-interest, be overlooked by the present and intending users of these marvellous machines.

Mr. Marsden has received over 60 gold and siver medals from the different Royal Societies and Exhibitions for them, and there are now more than 2000 in use in different parts of the world; they are great favourites with road surveyors, chemical and other works, and the mining world for breaking to a required size or crushing to any degree of fineness the material they severally use. The following testimonial has been forwarded to Mr. Marsden:—"I have broken over 40,000 tons of very hard limestone into road metal for the Newport and other road trusts in your patent stonebreaker, and all with the one pair of jaws, which are still in use. I do not think at all, but am quite sure, yours are the only machines which fully perform the work you set them out to do, and there are none in the show can at all compare with them."

MINING IN CARNARVONSHIRE—LLANENGAN DISTRICT.

SIR,—From Pantgwyn we proceeded to the Diecoch Mine, which is a new mine, and is worked by a part of the Tanybwlch Company. It was started about nine months ago. A perpendicular engine-shaft is being sunk here, which is down about 30 fathoms from surface. I was informed that it is purposed to attain the depth of 60 fathoms before intersecting the lode. This mine is situated on a splendid piece of mineral ground, and its being on the same lode as the Tanybwlch and other growing mines are indications which give every probability of its opening out a large and productive mine

From here we went to the Port Nigel Mine, which lies to the west of Diecoch, and is on a lode traversing south of the Tanybwlch lode. In going over the dressing floors we saw some splendid specimens of lead ore, both for size and quality, which the agent informed me were raised from the 56 fathom level east. In this level 35 fathoms of it has been very productive, the last 23 fathoms being worth on the average 30*l.* per fathom for lead ore. The lode here varies from 6 to 12 feet in width, and has yielded large quantities of lead ore both east and west of the shaft. The engine-shaft is now down for a 70 fathom level, where on cutting into the lode large influxes of water were met with which overpowered the machinery. I made a thorough surface inspection of this property, and was much struck by the appearance of the long stretch of mineral ground both east and west of this mine. The lode on the eastern side of the shaft presents the most promising appearance for the production of lead ore. I heard that there is to be a large Cornish pumping-engine erected here shortly. The opinions of most practical miners are that if this mine was thoroughly opened out a large and remunerative property would be laid open, and one that would well reward the shareholders for their outlay. PEDESTRIAN.

P.S.—There were 30 tons of lead ore per month sold from the Port Nigel Mine previous to its being stopped by the water overpowering the machinery. ——— P.

THE CAMBRIAN MINES—CARDIGANSHIRE.

SIR,—In his report upon the Cambrian Mines, Cardiganshire, Mr. Josiah Hitchins graphically refers to the "gossan back of the lode" at the Devon Great Consols, and compares it with the rich "gossan back" of the lode traversing the Cambrian Mines. There can be no question as to the experience and judgment of Mr. Hitchins as a high mining authority, and, when he adds that with 35 additional years' acquaintance with lodes and gossans in almost every district throughout Great Britain, he gives the preference to the back of the lode at the Cambrian over that of the Devon Great Consols, we must regard the future prospects of the former mines as of the first importance, and acknowledge the enterprise in all respects to be worthy the attention of the investing public. We will now refer somewhat in detail to the Devon Great Consols, and then return to the Cambrian Mines.

The Devon Great Consols has unquestionably proved one of the most startling and brilliant prizes of the present century, and beyond any other contemporary copper mine has excited the attention and fostered the greed of the investing public. It stands boldly forth as an example of unparalleled success. In the year 1845 the ores were first discovered at Wheal Maria; and so rapid was the delevopment that, in 1846, 13,292 tons of produce realised 116,060*l.*, affording dividends of 72,704*l.*; and these results were established upon a subscribed capital of 1024*l.*, while the commercial value attained the sum of 1,000,000*l.* sterling This extraordinary career, however, received a very severe check during the ensuing two years, the dividends having fallen to 25,600*l.* and 15,204*l.* respectively. The mines about this period were reported by various authorities to be rapidly exhausting, and the market value of shares fell from 1000*l.* to 200*l.* and down to 180*l.* each. A favourable change, however, soon altered the prospective aspect of affairs, for in the year 1849 the gains were doubled. It must be borne in mind, *en passant*, that the large tract of ground belonging to the company was at that time almost wholly unwrought; but at this period (1877) the works extend for miles in length, and comparatively the concession is proven—although, by no means exhausted—as dividends (suspended since the early part of 1872) are assumed. From 1849 to 1854 the annual dividends increased to 64,512*l.* for the latter year, and during the next twelve years the enormous sum of 656,384*l.* was distributed, equal to 54,608*l.* 13s. 4d. annually up to June, 1865, when the yearly balance-sheet was issued to the shareholders. For the three years ending 1872 the dividends were respectively 40,960*l.*, 40,960*l.*, and 36,846*l.*—making a grand total for the quarter of a century—June, 1870—of 1,150,976*l.* upon a subscribed capital of 1024*l.*—say, 4500 per cent. annually through the whole period: the greatest percentage we remember to have occurred in the annals of copper mining. The subsequent dividends were 35,840*l.*, raising the gross amount to 1,186,816*l.*, and though the workings have been prosecuted with losses of from 9000*l.* to 10,000*l.* during the last four to five years there is every liklihood of the early distribution of profits—important discoveries having been made on a south and parallel lode, while the advance in the price of arsenic (of which there are immense stores) having proved also of the utmost import to the company.

The Cambrian Mines, Cardiganshire, are of great antiquity, and proved highly productive and profitable close up to the surface, and were partially wrought down to the 20 fm. level. The company's concession comprises the Esgair-Hir and the Esgair-Ffraith properties. The extraordinary riches in former times of the Esgair-Hir were discovered at two points, some 90 to 100 fms. apart, and proved continuously rich down to the depth above named, and below that point very little workings were effected, although the lode shows every evidence of vast products of silver-lead ores at increased depths. Two shafts have been sunk 120 fms. apart—the western one being now down to the 30 fm. level, and a level extended a few fathoms eastward; but it is still behind the deposit of ore gone down at the 20 fm. level, and extending eastward of the forebreast some 120 fms. in length. The other shaft is sunk at the extreme eastern point of this deposit of ore 60 fms. in depth, but no levels opened out upon the course of the lode, though of great importance to the present company in developing the mine below the 20 fm. level, as to all appearances a continuous course of ore exists unwrought in this section of the vein for the whole distance—say, backs of 40 fms. and 120 fms. in length. This shaft is of the utmost value to the proprietary, as it saves at least three years in time, and at least 10,000*l.* in money in opening out the vein, and there can be no reasonable doubt entertained that a rich course of silver-lead ore will be rapidly developed, and large returns of minerals brought to market. A very efficient field of machinery is already erected for pumping the water, drawing the ores to surface, and to dress the same for market. Surface buildings and all the requisite appliances are completed, at a cost of about 5000*l.*—so that no delay can possibly arise in bringing the operations of the company into practical play. It must be remembered that the company's grant is most extensive both east and west of this deposit of ore, and it by no means follows that other and still more valuable shoots of ore will not be discovered—in fact, the prospects and indications promise the very reverse, while in all probability this unwrought or virgin ground is the most valuable portion of the Esgair-Hir sett.

At the Esgair-Ffraith Mine, which is in area fully a mile and a-half in length on the course of the lodes, two adit shafts have been sunk. This adit is opened out or extended on the course of the lode fully 250 fms., and there is still standing virgin ground for a mile in length eastward of the forebreast. There is a peculiar feature in connection with this lode, which at once engrossed Mr. Hitchins' attention, and in regard to which he draws such favourable conclusions—a rich course of gossan constituting the entire back of the lode for the whole distance from 60 fms. eastward of the western shaft to the end, and still continuing eastward into the mile of virgin ground already referred to: This gossan Mr. Hitchins likes better than that existing above the immense deposit of copper ore he discovered at the Devon Great Consols in the year 1845. It is similar in character, containing a strong mixture of copper, muriate of silver, and particles of lead ore. The operations up to this time have not defined the length of this deposit of gossan; but, judging from the configuration of the ground ahead, the high crystallisation of the rock in which the lode is embedded, with other adjuncts associated therewith, there can be no question of a rich, extensive, and continuous course of copper and lead ores existing beneath this gossan back. No doubt as depth is attained the copper will give way to lead—the more valuable of the two ores. Under this adit a shaft has been sunk for 10 fms.—the lode being wholly gossan, and in the openings out 10 and 15 fms. east and west the lode is precisely similar, with possibly a stronger mixture of copper, muriate of silver, and lead ores, now worth 40*l.* per fathom. This is the lode from which Mr. Hitchins anticipates such important results, and induces him to refer to the gossan back of the Devon Great Consols.

Investment in mines is associated with risks, like joint-stock banking, insurance, manufacture, constructive enterprises, or any other speculative department of home industry, commerce, or trade; yet in mining, like every other pursuit, prudence and discretion are necessary—nay, indispensable—at starting. It is true that hope is the talisman and perseverance the harbinger of success in mining, or otherwise we should find no adventurers to open out the lodes and develope the hidden chambers of wealth contained in the depths of the earth—still as the cycles of time occur we find a Treffry, who discovered a Lane-cot, a Par Consols, and a Fowey Consols; a Hitchins, who developed a Devon Great Consols; a Teague, who successfully resuscitates a Tincroft, a Carn Brea, and a Kitty, so long as the product (tin) remained at its normal price; a Lyle, who gave us North and West Basset; a Clymo, who discovered a South Caradon, a Trelawny, and a Mary Ann; and there is also a Capt. Waters, who introduced a Roman Gravels, a Tankerville, and recently the Leadhills—all these are prizes of wealth, and all benefit those associated therewith, employ the working masses, expand the commerce,

and foster the trade of the country. But if it be true that there are as many fish in the sea as ever were caught it is equally true that there are as many mines undiscovered as have been developed, while we are greatly mistaken if a few months will not raise the Esgair-Hir and the Esgair-Ffraith into a prize equal to the best mines discovered in the Principality. Then let us wish success to the Cambrian Mines, and hope that Mr. Hitchins' prognostications will be fully realised, and at an early date. R. TREDINNICK,
Dealer in Stocks and Shares.

Exchange, 66, Coleman-street, London, E.C.

CARDIGANSHIRE MINES, A.D. 1877—No XIX.

SIR,—The next mine to the west of Caegynon would be the Gelliveirin Mine, worked down as far as Francis's level, which has been driven in on the north bank of the River Rheidol, at a height of about 20 fms. above the bed of that river. A course of ore from surface to this level has been worked away for an average length of about 50 fms., or to a depth from surface downwards of about 80 fathoms. This ground has yielded about 80,000*l.* worth of silver-lead ore. No workings have been made under the adit alluded to. It may not be amiss to make this remark, so that if ever the *Mining Journal* containing them is preserved, which is likely to be the only relic in existence in the next century, as here we have no plans or sections of a landowner's mines handed in to the Government office, which requires it in other parts of the kingdom, the parties so reading need be under no apprehension of being drowned here, providing no workings are carried deeper than they are at present left. On the top of the hill stands Bwadrain Mine, worked to a depth from surface of about 60 fms. The longest level has not been extended 100 fms. on the course of the lode, whilst the ore ground may be considered to be from 30 fms. to 110 fms. long, and has yielded about 30,000*l.* worth of ore. These remarks will be found to be about correct. Should this mine ever be worked again a good course of ore will be found to be opening out in the bottom. To the west of Gelliveirin stands the Old Tyllwyd that was, and the New Tyllwyd that is. Thousands—very many thousands—of pounds have been and are still being flittered away here. I have only to say that with the present machinery 1000*l.* when the mine was started by the last (Tyllwyd) company the agent that could not have put the mine into a state of profits ought never again to have the chance of another trial.—*Goginan, July* 10. ABSALOM FRANCIS.

SOUTH PARK OF MINES.

SIR,—At times there are unsatisfactory proceedings with regard to mining—a great impediment to its legitimate development and prosperity. I do not say such is the case with regard to this mine, but I hear it is a fact, as "John Bull" observes in the Supplement of June 30, that one of the officials is not distinguished for his sobriety. Can "John Bull" give a little more information respecting this mine and its working, including the mines of the district, as it would be interesting to know what is doing at Trewollock Mine, and the Park of Mines. These mines are said to be the property of Mr. Parker and a solicitor of Bow Church-yard. Are these gentlemen the sole proprietors, or are they public companies?

London, July 10. ENQUIRER.

'CWM DWYFOR.'

SIR,—I shall be very much pleased to visit this mine when I am employed to report on it, as I was in 1873 (May 12); until then I must be satisfied with Capt. Jewell's statements, which appear very straightforward, and are, I dare say, correct. I hope that his and my favourable opinions will be justified by the results, and that those results will make Capt. Jewell a "good Cap'n!" When I was at the mine Capt. Colliver was the agent. TOURIST.

July 11.

WHEAL GRENVILLE.

SIR,—I regret to see any correspondence published in the Journal imputing any necessity for additional paid servants. These are not times for throwing away money in superfluous officials. What are the facts? The committee meet every fortnight. Every question involving the expenditure of 5*l.* beyond the underground development of the mine is submitted to the committee for their sanction. All merchants' bills are paid by the secretary. Two of the committee having first signed the separate cheque for each merchant, who duly forwards his receipt for same. The ordinary working expenses, leaving out the extra surface cost, is now being met within 100*l.* a month, and that at the present depressed price of tin, so that a call of 1s. per share per quarter would meet the deficit.

The present pumping machinery is expensive, and the least breakage causes a delay, and throws away many hours and sometimes days. In a few months all this difficulty will be overcome. Every shareholder who visits the mine cannot fail to be delighted at the transformation taking place. The liberal expenditure in the shortest possible time by the shareholders has placed Capt. Hodge in a position to accomplish much in a truly economical manner. Let me recommend every shareholder to hold on to his shares. A better price for tin is the only requisite to place Grenville in the profitable list of mines. LOOKER-ON.

WHEAL GRENVILLE.

SIR,—From the letters which appear in the Journal there apparently exists a good deal of personal feeling for and against the present managers of this mine. We must not be surprised at the preponderance of the adverse feeling, for certainly the result of having a committee to control the affairs has not thus far been of that beneficial character which was at one time so loudly prophesied. I was a shareholder in the mine, and I soon saw the mistake that had been made in changing the management, and I got rid of my shares, a step which I believe many of the old adventurers have since adopted. As is well known we were led to believe that the change of managers would speedily result in good profits, and a great increase in the value of our property, instead of which under the new regime the shareholders have been called upon to pay nearly 16,000*l.* during the past 18 months, and the property does not stand at half this amount in value.

When one takes a calm and common sense view of matters this is almost appalling, after the glowing future that was promised and almost assured to us. I have heard several men of great mining experience say that, large as this amount is, much more will be wanted if the present system of operations is persisted in. If these views are correct, and I have great confidence in them, who is responsible for what is going forward? Captain Hodge may be an energetic manager, but there is a more important quality than energy wanted in mining affairs, and that is judgment, and of this I hold that any man must be sadly deficient who can advise the outlay of thousands of pounds on machinery and dressing-floors with tin at 43*l.* per ton, and still declining.

It seems to me that Capt. Hodge, or whoever has advised the present outlay, is influenced by the results in South Condurrow. He or they appear to argue that as the latter is upon the same lode, and after laying out a lot of money on machinery, is now making good profits, the same results must naturally follow the same proceeding in Wheal Grenville. From all I have gathered in converse with parties who know both mines well I think that the Wheal Grenville party are decidedly wrong in suffering themselves to be influenced by such conclusions, and are likely to pay very dearly for doing so. In my opinion they would act more wisely in taking warning from what has occurred at West Basset. That mine is also upon the same lode, and I am told that the value of the tinstuff is about the same in both mines. The present unfortunate position of West Basset shareholders may be traced to their enormous outlay for machinery and dressing-floors for raising and preparing the ore for sale.

At the late meeting the manager stated that the bottom levels had fallen off in value, and, in consequence, 70 men had been discharged. Some months ago I saw it reported in the Journal that Capt. Hodge had informed the Wheal Grenville shareholders that the deeper levels in that mine were not so productive as the shallower ones. Nevertheless, with tin at 43*l.* per ton, the company is now doing that which West Basset did when the ore was as high as 70*l.* per ton, and the result of which to that mine is a debt of 25,000*l.* to their bankers. As I am no longer a shareholder in Wheal Grenville no outlay there can affect my pocket. Some persons may, therefore, treat this letter as impertinent and officious, but others may possibly see in my views much matter for reflection and caution.—*July* 10. AN EX-SHAREHOLDER.

DEATH OF A FAITHFUL CASHIER.

SIR,—On July 13 the burial ground attached to St. Day Church received the earthly remains of Mr. Hugh Sims, of Tolgullow, in Gwennap. He was for a term of 60 years a clerk and cashier under the Messrs. Williams—firstly at Scorrier, and lastly at Tregullow office, under Sir F. M. Williams, Bart., M.P. He was remarkable for his good temper, peaceable manners, and uprightness of conduct, justifying the unlimited confidence reposed in him by his employers, who found him "prisca fides." He is succeeded in the office by Mr. Jas. Tregoning, who had been Mr. Sims' colleague for 20 or 30 years. The predecessor of Mr. Sims was Mr. John Blamey, who was under the Messrs. Williams also about 60 years; and the late Mr. John Pearce was there a similar term, as land agent, &c. Mr. Sims was till lately the cashier of the Redruth Savings Bank, and was pensioned off. Mr. Sims' father (Wm. Sims, of Whitehall, near Scorrier) was the engineer for numerous mines, all the Messrs. Williams's—Great Wheal Vor, East Crinnis, &c. R. S.

BALANCE SHEETS.

SIR,—Mr. Heard at West Basset, and Mr. Bolden at Dolcoath, did the right thing in pressing for balance-sheets, and for the revelation of the amounts due to the banks. It is to be hoped that the adventurers in all mines will insist on the rendering of balance-sheets showing the assets and liabilities of their mines at every account meeting. It has been asserted that several large mines in Cornwall are very heavily indebted, and yet the purser declares dividends—a practice which no company should tolerate, being repugnant to all good business rules, and calculated to mislead the public, and even the shareholders themselves. TOURIST.

July 11.

EFFECTS OF THE MINING DEPRESSION.

SIR,—Every industry in the metallic mining districts is affected by the depreciated price of tin. The complaints are general. Even surveyors feel the effects. I know one who has published numerous maps of the mining districts, and who, some years ago, could find a ready sale for them, but at present the maps are a dead stock, there being no demand for any of them, and they are not saleable at any price. The stock is now almost valueless. But that surveyor is not tired of life, and is solvent, which is more than can be said of some mines.—*July* 11. TOURIST.

"A GOOD BAL MAKES A GOOD CAP'N."

SIR,—According to the above adage, good mine agents are rather scarce, because good mines are, comparatively, so. A first-class education, associated with extensive experience, will never bring a man into the category of "good cap'ns" in the absence of good mines founded by them—I mean in the estimation of the world. And if an agent, after having a good mine, should exhaust its resources, and thereby make it poor, he will soon lose his position; he will fall back into the general bulk of ordinary men—not good. At the present time there are (amongst a few others) the following good agents:—Captain Josiah Thomas, made so by the success of Dolcoath, as was his father, his predecessor in the management of that mine; and Mr. Wm. Teague, the manager of Tincroft, made so by the success of that mine and of Wheal Kitty. When these mines become poor—if those agents live long enough to see it—they will lose their character. "Nothing succeeds like success." Several good, because successful, agents have left the world—Captain A. Vivian, Captain J. Lyle, and Captain C. Thomas; and there is one agent now living who was good while North Roskear continued rich, but no longer. Success alone secures to an agent the reputation of being a good cap'n.—*Camborne, July* 11. MINER.

ROMAN GRAVELS MINING COMPANY.

SIR,—As I find that misapprehension exists in some quarters as to the payment of the dividends herein for the future, I think it right to mention that the next meeting of the shareholders will be held at the latter end of March next, but that the directors will, as soon as they are in a position to do so, declare an interim dividend on the shares, as stated by the Chairman at the meeting on the 4th inst.—*July* 12. F. F. WILSON, Secretaryy.

CAPTAIN TREGAY, AND PEDN-AN-DREA MINE.

SIR,—Captain Tregay continues to shirk the facts, and now introduces into his official report on the mine some complimentary remarks on his own abilities by way of answer to my questions. During the final five months of the late company, and after he had made "considerable reductions" in the costs, he managed to spend 1700*l.* per month and return about 20 tons of tin. Immediately he gets the mine into his own hands he can work the mine "fairly" (as he calls it) with an expenditure of only 1300*l.* per month, and get the returns up to 40 tons, and because I drew attention to these facts I am called a cowardly correspondent! I think your readers will rather be inclined to apply the epithet to himself for not frankly giving an explanation. If the mine is being "fairly worked" with 1300*l.* per month, what does he say for spending about 2000*l.*, and even the minimum of 1700*l.*, for the late company? Let Captain Tregay answer this question without any nonsense.

Captain Tregay says that with regard to the amount of dressing costs, "the whole of these costs are now considerably under 200*l.* per month altogether, and have been for many years." I entirely deny that under Capt. Tregay's management for the late company the whole of the dressing costs were below 200*l.* per month, and if they are "now considerably under" that sum for double the quantity of tin, it is another matter which calls for explanation. W. X.

July 9.

WEST MARIA AND FORTESCUE MINES.

SIR,—It is now more than half a century—probably 60 years—since these mines commenced working by the name of Wheal Morgan, under the supervision of Mr. Low and Captain Carpenter, but from time to time they have been resuscitated under various names and agencies, but all has been a waste of capital, and an immense sum has been lost, more than half a million of money having been sunk on this lode. Some 20 years ago Capt. S. Seccombe, of the Phœnix Mines, and myself were sent to inspect for a large shareholder. Capt. Seccombe formed an unfavourable opinion of the lode and the surrounding rock formation, as being composed of hard worthless capels and quartz, and was such as he would not spend a shilling on. Capt. John Vivian, of Scorrier, endorsed this opinion in a report to his friend and employer, and I believe Capt. Trevillian and other agents, down to a very recent period, have endorsed both Captains Seccombe's and Vivian's reports. But the concern has been pushed on, and with what result the world knows, and a heavy and injudicious loss that ought to have been avoided years ago. When tin was high in price this became a tin mine, or so it was reported. Steam stamps and I know not what were set up, but the only tin of value found came from from the shareholders' pockets. Then we had a *furor* for arsenic and chemical works; up go buildings and machinery to the tune of thousands—with what result? And finally came the boring machine, which was to be the salvation of the mine and make the fortunes of the company. This, like previous efforts, was a failure, except to the manufacturers. Has it not cost the company over 1000*l.*, and assisted in a great measure the collapse of the company. The fact is—this mine 20 years ago had had a fair trial, and ought to have been abandoned. Sixty years making calls in one solitary point, and not a farthing in profits to the company, is not judicious mining. A fair test of this lode at Wheal Williams, on the opposite side of the Tamar, and the tens of thousands of pounds spent and totally lost thereon, is a sufficient proof of the unproductive character of those lodes. It is quite time, therefore, to abandon such worthless concerns. Had one-fourth of this misspent or wasted capital been laid out in exploring some of the undeveloped lead lodes of the Liskeard district valuable and productive mines would without doubt have been laid open long ago, and the utter ruin of shopkeepers and small tradesmen, like at and around New Consols, would have been avoided. Those schemes are a great evil to the whole district, and ruination to thousands.
TAMAR BANK.

CORNISH MINING, AND ITS UNWROUGHT GROUND.

SIR,—For the last 20 years little has been done in developing the unwrought mining ground of the county, hence the absence of discoveries of much value to the investor, and consequent apathy of the public towards this enterprise, but there remains an inexhaustible field of mineral wealth waiting only the operations of the miner to open out riches equal in magnitude to any yet found. Carn Marth granite upheaved is to the mines of Gwennap what Carn Brea is to the mines of Camborne—the centre of the great mineral hotbed; and it is around these upheaves that by far the larger portion of the mineral wealth of Cornwall occurs. At the foot of these hills may be seen cropping out at surface elvans of a highly crystalline character, in close connection with copper lodes, the surface outcrop of which show splendid specimens of true copper gossan, which is never known to fail, producing large quantities of copper on being developed, such being the sure precursors of valuable deposits. It is with such indications that I have selected a piece of mining ground (a prospectus of which appears in another part of to-day's Journal) at the north foot of the granite range spoken of, the lodes in which, resembling those of the surrounding mines, leave little doubt that on a small capital properly directed results equal to those of the neighbouring mines may be relied on. It may be mentioned that the mines within a radius of two miles around Carn Marth have given profits to the fortunate holders of 2,000,000*l.* sterling.—*Cornwall, July* 12. CHAS. BAWDEN.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

Since our last report (June 28) themarket has been very inactive. The state of business is worse than for some time past, and the majority of shares are difficult, if not impossible, to sell. To-morrow is settling-day for the middle of July account, Tuesday last having been contango-day. (A note of the business then done will be found below.) The next account is for settlement, which is on July 31, Tuesday, July 27, being next contango-day. In shares of iron and coal concerns Shotts have fallen as much as 6*d.* per share; Nant-y-Glo and Blaina (preferred), 20s.; Omoa and Cleland, 7s.; Benhar, 5s.; ditto (new), 3s. 9d.; and Marbella, 2s. 6d. On the other hand, Cairntable have advanced 10s.; Bolckow, Vaughan, A, 5s.; and Scottish Australian, 2s. 6d. A call of 5*l.* per share is due on August 1 on Sheepbridge shares; there being 4970 of them the capital thus raised will be 24,850*l.* Benhar (new) are now quoted full paid, and Bolckow, Vaughan, A, 50*l.* paid. Alltami are at 97s. 6d. Bolckow, Vaughan B, 34½; ditto 5 per cent. (preference), 20¼; Cardiff and Swansea, 22s. 6d. to 27s. 6d. Chapel House, 51s. 3d. Darlington, 12 dis. Mersey, 27s. 6d. dis. Oakham (25*l.* paid), 10s. Pelsall, 10 dis. Scottish Australian, 35s. to 40s.; ditto (new), 6s. to 9s. Sheepbridge, 7 dis. Spon Lane, 50s. West Cumberland, 6½.

In shares of foreign copper concerns, Rio Tinto 5 per cent. have *fallen* 50s., ditto (7 per cent.) and Cape, each 20s., and Canadian 4s. 9d.; on the other hand, Tharsis have advanced 10s., Panulcillo 5s., Tharsis (new) 2s. 6d., and Huntington 1s. 6d. The annual meeting of the Cape Company will be held on the 18th inst. Copiapo are at 12½ dis., Newfoundland 12s., Frontino 17s. 6d., Rio Tinto 5 per cent. 53¾, San Pedro 12s. 6d., Yorke Peninsula (ordinary) 2s. 6d. to 3s. In shares of home mines, Glasgow Caradon (new) are 6*d. lower*; the next sale of copper by this company, 245 tons on Thursday next, will compare with 250 tons last month, 245 tons in July, 1876, 241 tons in July, 1875, and 240 tons in July, 1874. The Mwyndy Company have declared an interim dividend of 1s. 6d. per share for the half year ending June 30 last, payable on the 16th inst. Bampfylde are at 7s. 6d. to 12s. 6d.; Bodidris, 10s. to 15s.; Clementina, 47; Court Grange, 20s.; Denbigh Consolidated, 10s. to 20s.; D'Eresby, 15½; Devon Great Consols, 90s., cum div; Fortescue, 1s.; Glyn, 7s.; Gorsedd and Merllyn, 97s. 6d.; Great Retallack, 2s. 6d.; Holmbush, 30s.; Killifreth, 9s. 6d.; Leadhills, 5½; Llangan, 91s.; Llanrwst, 50s. to 52s. 6d.; Mellanear, 45s. to 50s.; Monydd Gorddu, 50s.; North Laxey, 15s. to 18s. 3d.; Parys Mountain, 12s.; Pennant, 95s.; Penstruthal, 5s.; Prince of Wales, 3s. 9d.; Red Rock, 45s.; Rookhope, 21s.; St. Patrick, 26s.; South Condurrow, 7¼ to 8; Van Consols, 7s. 6d.; West Caradon, 6d.; West Tolgus, 62s. to 63s., ex div.; Wheal Agar, 6½.; and Wheal Uny, 20s.; Unity Wood, 1s. 6d.

In shares of gold and silver mines, Flagstaff have advanced 15s. per share, Last Chance 8s., and Richmond 7s. 6d. Almada are at 2s. 6d. to 5s Antioquia, 11s. 3d. Chicago, 40s. Chontales, 7s. 6d. Eberhardt and Aurora, 7. Emma, 1s. 6d. to 3s. 6d. Exchequer, 6s. 3d. Flagstaff, 62s. 6d. Frontino, 55s. Javali, 7s. 6d. Last Chance, 15s. Pestarena, 4s. South Aurora, 3s. to 5s. St. John del Rey, 270.

In shares of oil concerns, Young's Paraffin have advanced 10s., and Uphall 6s. 3d., while Oakbank are 2s. lower, also ditto (new) 6d. The others are unaltered beyond Dalmeny, for which 7¾ might be taken In shares of miscellaneous companies there have been few transactions. Earle's Shipbuilding are at 26 dis. General Sewage, 8 dis.; Lawe's Chemical, 6*l.* 13s. 9d.; Langdale's Chemical, 95s.; Newcastle Chemical, 47s. 6d.; Palmer, A, 16¾; and ditto, B, 15½ dis. Phospho Guano, after being done at 11⅜, are now 11 to 11¼.

On contango day (Tuesday) the following were the rates of continuation current:—Contangoes: ¾d. on Canadian Copper; 1d. on Glasgow Caradon; 1d. on Port Washington; 1d. on Huntington Copper; 3d. on Marbella; 1d. on Omoa and Cleland; 1¼d. on Oakbank Oil; 6d., 4½d. on Richmond; 3d. on Uphall Oil; 3¼, even, 1d., 3d. on Young's Paraffin.—Even: Monkland Iron.—Backwardation: 9d. on Tharsis. On comparing the making-up prices fixed to-day with those at last settlement, the following are the movements shown on the principal shares:—Uphall Oil have advanced 10s. per share, Richmond and Tharsis each 7s. 6d., and Huntington 6d.; Young's Paraffin have fallen 8s. 9d., Omoa and Cleland 7s., Glasgow Port Washington 5s., Canadian Copper 4s. 9d., Oakbank Oil 4s. 6d., ditto (new) and Marbella each 2s.; Glasgow Caradon are unaltered, also Monkland Iron (ditto (preference), and Tharsis (new).

Subjoined are this week's quotations, &c., of mining and metal shares quoted on the Scotch Stock Exchanges:—

Capital. Per share.	Paid up.	Dividends. Rate per cent. per annum. Previous.	Last.	Description of shares.	Last price.
				COAL, IRON, STEEL.	
£10	£7	£ 8½	£ 6½	Arniston Coal (Limited)	8
10	10	6	6	Benhar Coal (Limited)	9¼
10	10	6	6	Ditto	7/.15s 9d
100	50	18s 9d ‖ 1.41s 6d ‖		Bolckow, Vaughan, and Co. (Lim.) A.	53½
10	10	10	10	Cairntable Gas Coal (Limited)	8
10	10	nil	—	Chillington Iron (Limited)	80s.
32	29	nil	nil	Ebbw Vale Steel, Iron, and Coal (Lim.)	9¼
10	5	nil	nil	Fife Coal (Limited)	80s.
10	10	nil	nil	Glasgow Port Washington Iron & Coal (L)	35s.
10	10	—	—	Ditto Prepaid	35s.
10	10	—	—	Lochore and Capledrae (Limited)	82s. 6d.
10	10	nil	3	Marbella Iron Ore (Limited)	69s. 6d.
10	10	nil	nil	Monkland Iron and Coal (Limited)	51s.
10	10	5	4	Ditto Guaranteed Preference	5
100	100	nil	nil	Nant-y-Glo & Blaina Ironworks pref. (L)	19¾
6	5¾	nil	nil	Omoa and Cleland Iron & Coal (L & Red.)	20s.
1	1	15	17½	Scottish Australian Mining (Limited)	40s.
1	8s.	15	17½	Ditto New	8s. 9d.
Stock	100	5	nil	Shotts Iron	91
				COPPER, SULPHUR, TIN.	
4	4	—	—	Canadian Copper and Sulphur (Lim.)	5s. 3d.
10	7	20s ‖	20s ‖	Cape Copper (Limited)	37
1	1	15	7½	Glasgow Caradon Copper Mining (Lim.)	24s.
1	15s.	15	7½	Ditto New	16s. 6d.
10	9¾	nil	nil	Huntington Copper and Sulphur (Lim.)	22s. 6d.
25s.	23s.	—	—	Kapunda Mining (Limited)	6d.
4	4	—	—	Panulcillo Copper (Limited)	25s.
10	10	nil	nil	Rio Tinto (Limited)	75s.
20	20	—	7	Ditto, 7 per cent. Mortgage Bonds	13
100	100	—	5	Do. 5 p.ct. Mor. Deb. (Sp.Con. Bds.)	54
10	10	nil	nil	Russia Copper (Limited)	40s.
10	10	22½	20	Tharsis Copper and Sulphur (Limited)	24
10	7	22½	20	Ditto New	16½
1	1	—	—	Yorke Peninsula Mining (Limited)	7s. 6d.
1	1	—	—	Ditto, 15 per cent. Guaranteed Pref.	21s. 3d.
				GOLD, SILVER.	
1	1	—	—	Australian Mines Investment (Limited)	8s. 9d.
5	5	7s. 6d ‖	7s. 6d ‖	Richmond Mining (Limited)	6¾
				OIL.	
10	7	5	6	Dalmeny Oil (Limited)	8¼
1	1	—	7¼	Oakbank Oil (Limited)	46s.
1	5s.	—	7¼	Ditto	12s.
10	10	—	2½	Uphall Mineral Oil (Limited) "A"	8/.11s 3d
10	10	—	—	Ditto "B" Deferred	10
10	8¾	5	9	Young's Paraffin Light & Mineral Oil (L).	14¼
				MISCELLANEOUS.	
50	25	10	5	London and Glasgow Engineering & Iron Shipbuilding (Limited)	26¼
20	14½	—	—	Peruvian Nitrate (Limited)	10¾
7	7	20	10†	Phospho Guano (Limited)	11¾
10	10	6	6	Scottish Wagon (Limited)	11¾
10	4	6	6	Ditto New	88s. 9d.

† Last day for this account, July 27; settling day, July 31.

NOTE.—The above lists of mines and auxiliary associations are as full as can be ascertained, Scotch companies only being inserted, or those in which Scotch investors are interested. In the event of any being omitted, and parties desiring a quotation for them and such information as can be ascertained from time to time to be inserted in these lists, they will be good enough to communicate the name of the company, with any other particulars as full as possible.

J. GRANT MACLEAN, Stock and Share Broker.

Post Office Buildings, Stirling, July 13.

A new metal, according to the Golos, has been found in platinum mines by a Mr. Kern, who has named it "Davy," in honour of Sir Humphry.

Meetings of Public Companies.

BEDFORD UNITED MINES.

At the general meeting of shareholders, held at the office of the company on Wednesday (Mr. C. BAILEY in the chair), the accounts for four months (previously circulated among the shareholders) showing a cash balance in hand of 479*l.* 11s. 1d., and an estimated balance against the mine of 432*l.* 10s. 6d., were duly examined and passed. Some discussion ensued with regard to the call, which was ultimately resolved to be 1s. per share. The agent's report was read, showing that since the last meeting 64 fms. 1 ft. 4 in. of ground had been laid open, and that during the last 12 months 149 fms. had been explored. The greater part of these explorations had been through good courses of ore. For the last 11 fms. of sinking the shaft had averaged in value 57*l.* per fathom for its length (12 ft.), and that it is now worth 50*l.* per fathom. A second-hand winding-engine is being erected in the place of the old drawing-engine, and is expected to be completed and fit for work before the end of this month, after which it is contemplated that the returns will be considerably increased. It was stated at the meeting that on a fair calculation there was ore in reserve of considerable value, which will in good time come away and leave a handsome profit to the adventurers.

Immediately after the general meeting a special meeting was held, for the purpose of considering the re-constitution of the company under the Limited Liability Acts. The scheme originated with the secretary, who, after consultation with some of the principal shareholders, deemed it desirable to ascertain the feelings of the shareholders with reference to the proposition. The result proves for itself that, so far as the shareholders in this company are concerned, cost-book is no longer the favourite system for conducting mining companies, there being nearly 70 shareholders holding nearly 10,000 shares in favour of the proposition, and only 10 shareholders holding about 800 shares against, the remaining shareholders not having replied. It was resolved to re-constitute the mine under the Companies Acts, 1862 and 1867, and the committee are empowered to carry the same into effect.

A vote of thanks to the Chairman concluded the proceedings of the meeting.

SOUTH CARADON MINING COMPANY.

At a general meeting of shareholders, held at the mine, on Tuesday (Mr. RICHARD HAWKE in the chair), the accounts for three months showed a profit of 106*l.* 5s. 1d. A dividend of 102*l.* (2*l.* per share) was declared, and the balance of 226*l.* 8s. 5d. carried to the credit of next account.——A special meeting was convened on Tuesday, the 24th inst., for the purpose of considering Capt. Holman's recommendation as to the advisability of relinquishing the West Caradon part of the sett. The following report was presented:—

July 10.—I am pleased in being able to state that the mine is looking well, enabling us still to return large quantities of ore, which I see no reason to doubt will continue. We have been driving in West Caradon ground with all possible speed by a full pare of men, but I am sorry to say without any good result. In relation to this part of the sett, I would remark that after driving through the cross-course in two levels—the 200 and 210, and about 16 fms. south—we intersected the western heave of the lode, but found it to be small and poor; we extended several fathoms west on its course, yet it did not improve, the ground being very hard and slow for progress. We have also driven some 25 fms. north, but no lode or branches have been met with; I therefore think, in conjunction with all the other agents, enough has been done in this direction, and should advise all operations here in future be suspended.—JOHN HOLMAN.

TREBEIGH CONSOLS MINING COMPANY.

The general meeting of shareholders was held at the company' offices, Crosby House, Bishopsgate, on Thursday,

Mr. W. S. TANKARD in the chair.

Mr. W. WARD (the secretary) read the notice convening the meeting, and the minutes of the preceding one, which were confirmed. The statement of accounts was then read, showing a debit balance of 49*l.* 8s. 9d., and the subjoined report was submitted:—

July 10.—I beg to hand you my report to lay before the shareholders on the 12th instant. Since the last general meeting, held in London on March 22, Ward's engine-shaft has been sunk 6½ fms., being now 6 fms. 3 ft. below the 30; the stratum is all that can be looked for for the production of blende and silver-lead ores, but not quite so favourable for progress. A large stream of water is coming from the direction of the branches producing blende and silver lead ores met with about the 30 fm. level, which underlies a little south-west, and is running several degrees north of west, consequently they have left the shaft. The cross-cut at the 30 has been driven north of shaft 21 fms., and several branches or lode intersected, the first being 5 fms. from shaft and 6 in. wide, composed of quartz mixed with a little blende, and letting out a large stream of water, also going down almost perpendicular. The second is 9 fms. from shaft, 16 in. wide, composed of flookan, quartz, mundic, decomposed killas, underlaying south 3 ft. per fathom, and running about 4° south of west, and letting out a little water. The third is 15 fms. from shaft, and is 8 in. wide, underlying full 6 ft. in the fathom, and has much the appearance of a slide. The last two are 6 ft. apart, and about 8 in. wide, composed of quartz and capel, spotted with blende, and letting out water freely. A plat has been cut at the 30, ground cut for bearer-holes and cistern-plat, &c., a plunger-lift with rods, stays, &c., fixed from the 30 and made complete to surface, capstan erected, engine pond excavated, and launders fixed and made complete. In conclusion, seeing that the cross-cut is driven out nearly under the perpendicular of the lode at the adit level, and several branches or lodes intersected, and neither of them correspond with the underlay or character of the lode seen in the adit or shaft sunk on its course from surface, it is difficult to say which is the main part, and as the branches discovered in the shaft were first found under a hard floor of ground about 4 fms. above the 30, the same may have split and disordered the lode between the adit and the cross cut. The second branch or lode met with in the cross-cut is underlying 3 ft. in the fathom, and will form a junction with the first near the shaft at (say) a 45 fm. level, and by driving west at that level about 10 or 15 fms. it would form a junction with the branches in the shaft which is running many degrees north of west, and as the lode or branches have not been found productive in the 30, I strongly advise all operations at that point being discontinued, and push on the sinking of the shaft with all speed to the above-named depth to meet the junction as soon as possible, where, in my opinion, good results may reasonably be expected.—J. GIFFORD.

P.S.—The time and cost to carry out the above-named work would be (say) six months, at 140*l.* per month, but if the ground should prove favourable it might be completed in five months. We are now boring a hole in the breast of the cross-cut to see if any more lode is near at hand.—J. G.

The CHAIRMAN remarked that the accounts were satisfactory, inasmuch as Mr. Ward had shown them that they had reduced their debit balance by about 100*l.*, and all costs were charged up to the latest possible date, the cost-sheet to June 16 being included in the accounts, although, as they always kept one month in hand, that was not payable until Saturday next. Their total liabilities were 84*5l.* 9s. 10d.; the calls in arrear were 267*l.* 12s.; and the balance against the mine was 49*8l.* 8s. 9d.

Mr. WARD explained that the larger part of the calls in arrear was on the second instalment of the last call, and most of the amount would be paid during the next month.

Mr. LATREILLE said that arrears of call was a matter upon which they should be very strict, as it was most unfair that some should pay promptly and yet suffer for the want of punctuality in others.

Mr. SUTTON quite agreed with the shareholder in principle, but it was some times necessary to consider circumstances.

Mr. LATREILLE did not see that that affected the question, and still maintained that all calls made should be strictly enforced.——The accounts were then unanimously passed.

Mr. WARD said that, with regard to Capt. Gifford's report, he and the captain had carefully gone through the estimate for the shaft item by item, and found that 130*l.*, instead of 140*l.* per month, would be the outside of the cost. He was on the mine last week, and everything was being prosecuted with vigour. They had a good pumping-engine, steam-whim and capstan, which were worked with the steam from the pumping-engine boiler, so that there was no extra cost—indeed, their coals only cost them 23*l.* per month. He was certainly disappointed, after looking at the stuff at surface, that they had so little lead, but they must hope that the lode would be rich at the junction to which Capt. Gifford recommended them to sink.

Mr. BAXENDALE understood that the captain had stated they had a rich lode in the adit, and the analysis gave some thousands of ounces of silver to the ton.

Capt. GIFFORD said he had never stated that there was a rich lode in the adit, though there was promising-looking ground there. One or two rich stones of ore might have been found there, but there was no ore that could be worked to a profit. When they saw how the branches came together in the shaft they would be better able to pronounce an opinion.

Mr. WARD said the mine was originally started to prove a lode seen in the adit level, in which good lead was seen which justified the sinking of the shaft. In the cross-cut they expected to meet with the lode in 15 fms. driving, but had driven 21 fms., and it was now the opinion of some that they had not driven far enough, though Captain Gifford considered they had driven through the lode, and ought to sink the shaft deeper.

Capt. GIFFORD, in reply to a question, said that to follow down the ore seen at surface would be costly and useless, as it was a hard capelly lode, which would cost 30*l.* per fathom for sinking, and there was no ore in it that would pay to dress.

Mr. CHIPER was interested with Mr. Pearce as a shareholder, and from the opinion to be heard in the neighbourhood, and his own experience of mining, he believed that it was desirable to sink the shaft 10 or 15 fathoms deeper to see the junction of the lodes.

Capt. Gifford's report was ultimately adopted, and the sinking of the shaft agreed to; a call of 1s. 6d. per share was made, and the usual vote of thanks given to the Chairman and secretary. The meeting then separated.

MARKE VALLEY.—At the meeting on Wednesday (Mr. F. G. Lane in the chair), the accounts showed a credit-balance of 108*l.* 7s. Capts. Wm. George and James Stenlake reported upon the various points of operation. They have 11 stopes working on Marke's and Rosedown lodes, by 48 men, yielding in the aggregate 47 tons of ore per fathom; and 21 pitches, by 50 men, at tributes varying from 6s. 8d. to 13s. 4d. in 1*l.* Since the last meeting they consider the prospects for the future of the mine have greatly improved by the intersection of an ore-bearing lode in the 148, a most important point, which augurs well for deeper development; and from their having had a productive run of ground throughout the drivage in the 40, which is in whole ground to surface, leaving nearly 100 fms. backs. This they also consider very important. Every effort is being made to push on the shallower drivages, as well as the development of the mine in depth.

CARGOLL.—A meeting of adventurers was held on July 5, when the accounts for 12 weeks ending March 31 howed a debit balance of 124*l.* 16s. 1d. A call of 3s. per share was made. Capt. Jennings says that the number of men employed underground is 46. The machinery both at surface and underground is in good working order, and is working satisfactorily.

NERBUDDA COAL AND IRON COMPANY.

The meeting of shareholders will be held on Tuesday, when full reports and accounts will be presented. The report states that—

The directors regret to announce that from unavoidable circumstances the operations of the past year have not been productive of such good results as those of the year 1875. It will no doubt be remembered that at the last annual general meeting it was announced that the contract with the Great Indian Peninsula Railway Company expired on Dec. 31, 1875, but that coal was being delivered to them on the same terms as those stated in the contract; this arrangement continued in force until March 31, 1876, but from that date the railway company gave notice that they would not take more than 1200 tons per month for the three months following, and thenceforth only 800 tons per month. Negociations are now pending in Ind a for a new contract. The company unfortunately have had to contend with a very serious outbreak of cholera in their district, and notwithstanding that every means were taken to stay the infection, a considerable number of the native workpeople engaged at the collieries died therefrom, and the works in consequence thereof were practically stopped for several weeks.

From some cause unknown a fire broke out in the month of August last in the Nos. 3 and 4 seams in No. 1 north level; active measures were at once adopted to extinguish it, but owing to the smoke and stythe becoming so dense all attempts to put it out were obliged to be abandoned, and stoppings were made with the view of stifling the fire, in which state by the latest advices matters then remained. This event has largely affected the output for the past year, as the pillars were easily and quickly worked, but owing to the opening out of other portions of the collieries the directors have every reason to believe and expect that the future output will not be diminished, even if the north level has to remain closed for some time longer. The output of coal for 1876 amounted to 17,817 tons, of which 14,425 tons were round coal, and 339 : tons small. The sales were 13,852 tons round coal, and 92 tons small. The consumption at the colliery was 3873 tons, which consisted chiefly of small coal. The engagement of the late manager, Mr. Maynard, having nearly expired the directors in December last appointed as his successor Mr. James A. Maughan, a gentleman of experience from the Newcastle district. Mr. Maughan arrived at the collieries on the 30th of January last, and took over the management on March 1 following, having had the benefit of over six weeks' association with Mr. Maynard, prior to the departure of the latter from Mopani, during which time he made a careful inspection of the collieries and plant. A report has been received from Mr. Maughan, which can be seen at the office. With reference to the extent of known coal, Mr. Maughan writes very confidently, he estimates the total produce at 7,852,000 tons. The revenue account for the past year exhibits, after deducting all expenditure thereon, inclusive of outlay on shafts Nos. 1 and 2 and the new winning, a net profit of 3066*l.* 13s. 4d., out of which the directors propose to pay for the year ended Dec. 31 last a dividend of 2½ per cent., free of income tax, on the paid-up capital, which will absorb the sum of 2561*l.* 3s.

CAPE COPPER MINING COMPANY.

The meeting of shareholders will be held on Tuesday, when full reports and accounts will be presented. The report states that—

The profit and loss account for 1876 shows that the value of the ore returned for that year was 243,790*l.* 8s. 5d.; its average assay has been 28½ per cent., and the average price obtained for it has been 14s. 7d. per unit. The costs were 159,021*l.* 10s. 5d. The result, including the balance of 4310*l.* 17s. 9d. from 1875, is a net profit of 90,079*l.* 8s.: this profit has been dealt with as follows:—80,000*l.* has been paid in dividends, 999*l.* 6s. in income tax, and 3500*l.* has been carried to the landed estates and buildings sinking fund, leaving a balance of profit of 5580*l.* 2s. to be carried forward.

In accordance with suggestions made at the last general meeting, the amount of 35,0 0*l.* previously standing in the accounts as "Capital from Premium on New Shares," has been transferred to the railway and jetty sinking fund, thus increasing the latter account to 65,000*l.* The return of ore from the Ookiep Mine amouted for the year 1876 to 10,765 net dry tons. The reserves of ore at the close of that year were tated at 38,015 tons, being about 1000 tons more than the quantity stated at the end of 1875. The chief features of interest in the mining at Ookiep during the past year were the extension of the 63 eastward, and the opening out of the 80. In the first-named work, although the end of the ore ground in that direction had apparently been previously reached, the level has at intervals again passed through some ore bearing ground. The driving and stoping north and south at this depth have opened out a considerable width of ore ground. The 80 fm. levels have opened up some very valuable ore ground, but of a somewhat fluctuating character. Capt. Tonkin's late reports express confidence in the result of further exploration eastward at this depth.

The condition of the Trial Mines is without material change; portions of them continue to yield ore in moderate quantities, but mostly of a poor quality, requiring much dressing. At Nababeep some dressing machines have been erected, and parcels of copper ore of fair produce have been dressed and sent home for sale. Further quantities will, no doubt, continue to be thus obtained. In view of the depressed condition of the copper market, the profit obtained during the past year must be considered very satisfactory. The decrease in the average price per unit obtained for the ore, as compared with that in the preceding year, has been equal to a diminution of 23,000*l.* on the total sales of the year, but the saving effected by the railway and other improvements in the shipment and conveyance of the ore to market, and the absence of any such exceptional costs as occurred in the previous year, have almost compensated for this very large diminution, and have enabled the directors to continue the payment of the usual rate of dividend,

TANKERVILLE MINING COMPANY.

The meeting of shareholders will be held at the mine on Thursday, when the following report from Capt. A. Waters will be presented:—

July 3.—Watson's engine-shaft is now 192 fms. below the boat level, and 234½ fms. from surface. The pump is fixed, rods in place, shaft divided and cased, and machine kibble winding from the bottom of the mine. We have driven the 192 cross-cut south towards the lode 2 fms., and calculate to get fully into it in 6 or 7 feet further driving. No stone will be left unturned to get into the great lode this week. The 180, west of shaft, is in a lode 4 ft. wide, worth at present 2 tons per fathom. Although the lode has fallen off in value in this end the last day or two, still the indications point to our near approach to a cavity, west of which we may expect a great improvement in the value of the lode. Supposing the dip of the ore from the 142 downwards to be uniform, the said 180 end is west to where the great run of ore seen above should come in, and the present end being very wet is fair evidence that our calculations as to the west bunch are about to be verified.

The winze, 8½ fms. behind the said end, is down 4½ fms.; the lode throughout is worth 4 tons per fathom. The 180 east, now over 15 fms. from shaft, continues to go forward in a lode 6 to 7 ft. wide, carrying two ore courses, the hanging part being worth 3 tons, and the footwall portion 1 ton per fathom. This end is laying open rich ore ground for stopes in back and bottom of the level. The winze in bottom of the said level, 10 fms. east of shaft, is down 2 fms.; the lode throughout is worth quite 4 tons per fathom. Seeing that over 35 fathoms in length has now been opened in ore ground along this level, and looking at the lode in bottom of the winze east, and of that west of shaft, I do think we may look to the cutting of the lode in the 192 with considerable expectation The stope in back of the 192, east of shaft, is worth 3 tons per fathom. The stope in said level, east of No. 1 winze, is worth 2 tons per fathom. The stope west of winze is worth 2 tons per fathom. The stope in same level, west of No. 2 winze, is worth 3 tons per fathom. No. 2 stope, west of ditto, is worth 2 tons per fathom. The 167, west of shaft, is through the twitch, and the lode is gradually improving as the end advances. I value the end to-day at 1 ton per fathom, but, from the splendid leadstuff just blasted out, we may reckon on an early improvement in the lode. There is no change of note in the 167, east of shaft, for the last week or two, and it is at present a difficult question to decide whether the run of ore now in the 180 is still in front of the 167 or standing by the side of that drivage. We must explore the ground in a miner-like way to prove the points. The winze below the 152, east of shaft, is now deep enough for the purpose for which it was started—to enable us to drive west behind the south side of Watson's shaft to get to a run of ore worth 2 to 3 tons per fathom, ground that could not be worked direct from the shaft without risk to the pumps, and hindrance to the dispatch of stuff through the regular outlet to surface. I may say here that said run of ore ground appears to be a continuation of the bunch now to be seen in the 180 east. The rise in the 130, west of shaft, on south part of the lode, is worth 2 tons per fathom, with good ore in each end. The stope in said level west of shaft, but east of rise, is worth 1 ton per fathom. The 130 west towards said rise is yielding good stones of ore, but the end is not yet far enough to catch the main bunch of ore. The winze below the 110 west of shaft, on south lode, is worth 2 tons per fathom.

The 92 cross-cut, north-west towards old mine, is 2½ ft. into what appears to be a great lode, composed of carbonate of lime and good stones of lead ore; the value improves as the cross-cut advances. This is evidently one of the great lodes, if not the great lode, of the old mine, and our intention is to cut it through to the full width, and then go east on its course to the great cavity and ore ground known to exist in the bottom of the 74, about 15 fathoms east of the old engine-shaft. It is impossible at present to calculate the exact dip of the cavity and run of ore ground, but 10 fathoms east of the present 92 cross-cut is likely to be sufficient to meet with the object in view.

We feel persuaded that when this part of the old mine is properly laid open by the said 92 an important addition to the resources of the mine will be the result. The last annual report made special reference to this point, and it was hoped that we should long ago have been able to go down in the cavity and work the ore ground below the 74, and thus add to the returns of the mine. We have cleared out the level, and entered upon the work, but were soon driven out by a great influx of water, the result of heavy rains, which, as you know, lasted four months, and nothing but a steam-engine for pumping would have brought us out of the difficulty: This much by way of explanation. The stope in the 80 south of shaft is worth 25 cwts. per fathom. In the 42, east of old engine-shaft in the old mine, we are cross-cutting south towards four side lodes known to exist there, and upon which important discoveries may be made. We have ample pumping and winding power, and it is our intention to explore the mine lengthways and sideways to a greater extent than has ever been done before.

Ground sunk, driven, and stoped from February, 1870, to May 1877, as follows:—Sinking shafts, 192 fms. 2 ft. 10 in.; winzes, 150 fms. 5 ft.; levels, 686 fms. 1 ft.; stopes, 2650 fms. 5 ft. 2 in.: total fathoms, 3680 fms. 2 ft..

Total sales to May, 1877, 10,990 tons 12 cwts. 0 qrs., realising 154,985*l.* 19s. Profits made and paid to date of present balance-sheet, 58,200*l.* The mine is in good working order, and when the lode is cut into and explored at the 192 from shaft west to winze we shall resume our usual sampling of 150 tons a month, and I trust that from that time forward regular dividends will be the rule and not the exception.—ARTHUR WATERS.

WEST TANKERVILLE MINING COMPANY.

The meeting of shareholders will be held at the mine on Thursday, when the following report from Capt. A. Waters will be presented:—

July 3.—The 86 fm. level is going south from boundary shaft on the course of a strong lode, composed of spar, with stones of lead ore and blende of a very promising character. We are only carrying a portion of the vein at present, but shall cut through to the hanging-wall as the end goes forward. I would remark here that the indications in the present bottom are more cheering than anything seen adjoining the shaft at the 75, and I doubt whether the latter drivage is on the same division of lode as that in the 86. This matter will be cleared up in due course. The 75 is driven south of the shaft altogether 32 fathoms, the end being 2 fathoms beyond the winze. In the present forebreast the lode is in two divisions, the footwall part being 2 ft. wide, of stones of ore, and the hanging part 3 ft. wide, worth 1½ to 2 tons per fathom. As the end goes forward it is expected that the said parts of the vein will unite, when a more valuable run of ore will be the result. The principal deposits of ore worked by the old men, and subsequently by the company, from the 20 down to the 63 fm. level, are (calculating the dip) all south of the present 75 end, hence this level is only just entering the productive ground in the mine. The stope in the back of the said level, north of the winze, by six men, at 5*l.* per fathom; the lode is worth 1½ ton per fathom. A new stope south of the winze, to follow the 75 end, by six men, at 5*l.* per fathom; present value 1½ ton per fathom. The 63 fathom level is driven south of shaft 48 fathoms, most of the distance being through productive ground. The bulk of our returns have for some time come from the stopes above this drivage, and there is a very good run of ore to be seen along the bottom of the level, which will be laid open by the 75 fm. level end, as before mentioned. The 63 is now being driven eastward to intersect the big spar, or No. 2 lode (*i.e.*, the east lode of Roman Gravels Mine); this strong lode is, we think, most likely to become productive in depth. No. 1 stope in back of the 63 south by six men, at 4*l.* 4s. per fathom; worth 1 ton per fathom. No. 2 stope by four men, at 4*l.* per fathom; worth 1 ton per fathom. No. 3 stope by four men, at 5*l.* per fathom; worth 1 ton per fathom. No. 4 stope by two men, at 4*l.* per fathom; also worth 1 ton per fathom. The stope in back of the 50 south by two men, at 4*l.* per fathom; worth 1 ton per fathom.

Ground sunk, driven, and stoped from the commencement as follows:—Sinking shaft, 164 fms. 5 ft. 11 in.; sinking winzes, 106 fms. 0 ft. 6 in.; driving levels, 530 fms. 5 ft. 1 in.; stopes, 918 fms. 2 ft. 5 in : total, 1720 fms. 1 ft. 11 in.

Sales of lead ore and blende to end of May, 1877:—Lead ore, 956 tons 4 cwts., realising 14,202*l.* 3s. 9d.; blende, 655 tons, realising 318*l.* 15s.: total, 17,386*l.* 18s. 9d. To keep up present rate of returns will depend on the opening out of the lode beyond the present 75 end south of shaft, but the prospects in sight are favourable in this respect. To increase the returns will depend on our finding a run of ore ground from shaft along the 86, south to the corresponding ground now in the 75 forebreast. The 75 from shaft south to winze, a distance of 30 fms., is on the footwall lode, which is of little value. The 80 will be driven on the hanging-wall course, which we hope (and have reason to hope) will be productive ground.—ARTHUR WATERS.

[For remainder of Meetings see to-day's Journal.]

FOREIGN MINING AND METALLURGY.

The Eastern of France Railway Company is about to let contracts for 40,000 tons of steel rails, divided into 13 lots; the delivery of these rails is to be spread over the next three years. The iron trade is active at Paris, and it is expected to continue so for the remainder of this year, and probably also next year, the works of the Universal Exhibition communicating, of course, a good deal of animation to affairs. In the Meurthe-et-Moselle pig has been maintained with firmness. In the Nord iron has remained without variation. Upon the whole, the situation remains much the same; the works are not without employment, but they have not orders which will occupy them for any very long time in advance, and there is very little of interest to notice. The French Government has renewed a treaty of commerce with Italy.

Complaints were made some months since of a falling off in orders in the Belgian iron trade; if anything, they appear to be becoming still scarcer. The steel works of Belgium are, as a general rule, still engaged upon old contracts which maintain them in full activity. It must not be inferred from what has just been stated that the Belgian ironworks absolutely want employment; this would, perhaps, be saying too much, but at the same time they are not assured activity for many weeks in advance. Raw materials appear to have fallen to the lowest possible point, ironworks have made concessions to the utmost possible extent, contractors for public works are working with unprecedented cheapness, but no one appears to be making money; nevertheless, some works are still extending their plant and appliances. At the last monthly session of the Brussels section of engineers educated at the Liége school there was a good deal of discussion with reference to different systems of metallic sleepers for railways, and the best mode of attaching rails to such sleepers. Official Belgian returns show that the imports of raw pig and old iron into Belgium have decreased this year; on the other hand, the export of rails, merchants' iron, plates, &c., have increased this year. The Upper Italy Railway Company is about to let a contract for the supply of 10 locomotives, to be specially adapted for rounding curves of small radius.

The further we advance into the summer the more we have to report a diminution in the demand for Belgian coal. It is difficult to find words and phrases in which to report week by week the continued depression in the Belgian coal trade, but this depression is reflected in official statistics now available for the first five months of this year. Thus the imports of coal into Belgium in the first five months of this year were 261,000 tons, or 17,000 tons less than the imports for the corresponding period of 1876, and 15,000 tons less than the imports for the corresponding period of 1875. Almost all the difference occurred in May. The imports of coke into Belgium appear to be increasing; thus they amounted in the first five months of this year to 9500 tons, as compared with 6700 tons in the corresponding period of 1876, and 6000 tons in the corresponding period of 1875. Of the 9500 tons of coke imported into Belgium to May 31 this year, 7800 tons came from Prussia. The exports of coal from Belgium are diminishing more and more; thus while they amounted to 1,580,000 tons in the first five months of 1875, they sunk in the first five months of 1876 to 1,427,000 tons, and in the first five months of 1877 to 1,208,000 tons. The falling off in the two years will thus be seen to have been as much as 24 per cent. The exports of coke from Belgium also declined to 214,000 tons in the first five months of this year, as compared with 239,000 tons in the corresponding period of 1876, and 315,000 tons in the corresponding period of 1875 It will be seen from these data that the general state of affairs is far from brilliant. The Courcelles-Nord Colliery Company will pay on Monday the balance of its dividend for 1876, or 3*l.* per share.

There is little fresh to report with respect to the French coal trade. Old contracts are being worked out, and final deliveries are being made, but it is stated that these contracts are not very welcome to the consigners. Paris has never been supplied so largely as it has been this season, and never has the dead season of the Parisian coal trade been deader than it has been this year. All possible sacrifices would appear to have been made in regard to prices, and no further concessions seem practicable. It is also thought that the ensuing winter season will be better than that of last year, as, upon the whole, the French iron trade is in a better condition than it was twelve months since. The extraction of coal effected by the Carvin Mines Company in 1876-7 was less than in 1875-6, but the company suffered still more seriously from the considerable fall which took place in the selling prices of the coal raised last year. The dividend of the company for 1876-7 is at the rate of 1*l.* 4s. per share, as compared with 4*l.* 16s. per share in 1875-6. Some exploratory works have been carried on during the past year, and discoveries of some importance have been made.

The continental copper markets slightly hardened in price in the course of June. At Paris Chilian in bars has brought 74*l.* 10s.; ditto ordinary descriptions, 72*l.* 10s.; ditto in ingots, 76*l.*; English tough cake, 76*l.* 10s.; English best selected, 77*l.*; and pure Corcoro minerals, 74*l.* 12s. per ton. Tin lost during June the advance established in May. The disposable stock of Banca was estimated at the close of June at 11,797 tons, as compared with 8969 tons at the close of June, 1876. Banca, delivered at Havre or Paris, has made 77*l.* per ton at Paris; Billiton, ditto, 75*l.* per ton; Straits, ditto, 73*l.* per ton; Australian, ditto, 72*l.* 10s. per ton; and English, delivered at Havre or Rouen, 73*l.* per ton. We learn from Batavia that the production of Billiton tin from May 1, 1876, to April 30, 1877, amounted to 59,533 piculs, against 62,063 piculs in the corresponding period of 1875-6. Lead drooped sensibly during June; French, delivered at

Paris, has been quoted at 20*l.* 8s. per ton; Spanish and English, delivered at Havre, have made a similar price, while the quotation for Belgian and German, delivered at Paris, has been 20*l.* 12s. per ton. Rolled Vieille-Montagne zinc has brought 27*l.* per ton at Paris.

FOREIGN MINES.

ST. JOHN DEL REY.—The directors have received the following telegram from Morro Velho, dated Rio de Janeiro, July 11: Produce for the month of June, 36,000 oits.=13,950*l.*; yield, 7·1 oits. per ton.

DON PEDRO.—Letter from mine captains, June 9: The ores have been extracted from the No. 5 and No. 8 shoots. General work is of a fair quality. Five boxes of low quality boxwood have been extracted from stopes at the horizon of adit. We are happy to inform you that the mine is again improved, especially in the bottom of No. 8 shoot. This shoot of lode for the last 2 or 3 fms. has been very fluctuating in value, in consequence of fissures which are frequently met with in jacotinga mining, but with perseverance and great care, watching daily the heaves and their results, it is pleasing to tell you the lode is again of a good quality and is become well defined and of a good appearance, and a greater dip eastward, especially in the No. 3 stope, which is our foregoing work.—Stopes in the horizon of Adit: Here the works are being carried on very satisfactory. General work of stopes is of a moderate quality.—No. 5 Shoot: Stoping operations have been slow, in consequence of small force.—No. 6 Shoot at the horizon of Alice's: The south driving and the western incline have been suspended for want of force. Nothing has been done for the month towards exploring for the underlie lode for the same reason.—Drainage: The re-opening of shaft is now completed, and the force removed to repair the P. P. incline under adit, where great repairs are required.—Prospective and Running Work: The new tramway from the entrance of adit level is being carried on with all speed, which we hope to complete in a few days, if force permit. Timbering of new level from adit, going towards Vivian's shaft, is being continued very satisfactorily, and hope to complete this to breast of end in three or four days; however, we have a part of No. 6 shoot at this point, and good general samples are obtained. The mineral from this is now under treatment. The driving towards the canoa being kept on without change, also the driving from Alice's west to Symon's Shaft. Vivian's shaft is being kept under repairs as usual, and all other running work being carried on throughout.

Capt. Vivian, June 10.—Mine: No. 8 shoot, which is now being stoped below the 35 fm. level, has very much improved, especially in the No. 3 stope, which is the deepest point yet reached: the lode is large and very compact, showing every indication of a continuation to a great depth. The jacotinga in which the gold is embedded is rich in iron and of a silky lustre, therefore of a most promising character. It is not unlikely that I shall be able to report shortly of a more rapid dip in the lode than at present, in such case a further improvement may be looked for. The stopes on this shoot, in the adit level, continue to open out well, and are now yielding a large quantity of mineral. The new level at the adit, driving towards Vivian's shaft, has intersected a part of No. 6 shoot, which is yielding good general work, and further improvement is anticipated. All the works are going on well but slow in progress, owing to the force being small.

— Telegram from Rio, dated July 9: Produce for June, 7100 oits.

CONDÉS COMPANY OF CHILI.—Telegram, dated Valparaiso, July 6: 9 tons of regulus and 10 tons of raw ore have been shipped per Iberia.

TECOMA.—Telegram from America: Started work; delay unavoidable.—ADLEY.

EBERHARDT AND AURORA.—Telegram from Capt. Drake: No new development ore June. Incline 52 ft.; total 1267 ft. Drift north 750 ft., level 41 ft.; east 1000, level 69 ft. through footwall; 1100 ft. level east, 65 ft. through footwall; 1200 ft. level east, 54 ft. not reached wall.—Drift South: Blue Bell shaft, 49 ft., favourable for ore; made in tunnel, 126 ft. Total, 1340 ft. Placing blower. Expenditure June, 3400*l.*, including wood and lumber, and 1000*l.* on account of tunnel. Want July, 2800*l.*

CHONTALES.—J. C. Benthem Danby, June 5: We have mined and brought to San Domingo Mill 1092 tons of ore, which produced 232 ozs. of gold, or an average of 4¼ dwts. per ton. The cost for the month has been 680*l.* 5s. We value the gold obtained at 620*l.*, showing a loss of 60*l.* 5s. The above cost includes the sum of 56*l.* charged to construction account. The decrease in the production of gold during the past month was owing principally to the feast days of the natives, one feast being in the middle of the month and the other at the end. As you are, no doubt, well aware, very few natives can be persuaded to work on these days. Another reason has been the scarcity of water, of which we have not had sufficient to supply more than 23 heads, and it was only with the greatest economy this was accomplished. However, during the last day or two we have had some heavy showers, and indications lead me to believe that the wet season is not far off, although I do not expect sufficient water to run the stamps with the water-wheel during this month (June). The extraordinary dryness of the past six or seven months has been a great drawback to us. I hope, however, the coming wet season will more than counterbalance this. There has not been sufficient water during the past month to supply the pans, consequently this part of the machinery has been unproductive.—Mines: The work done in the mines during the month of May was much the same as in the previous one. The quartz on San Antonio surface has greatly reduced in value. We have also commenced the new rise in San Sebastian; the ground here is hard and poor. The manto at this mine still continues of about the same value as before, and its extent does not decrease by the explorations and work done during last month.—Machinery: The San Domingo Mill has worked fairly, no break down having occurred, and had it not been for the reasons stated in the commencement of this report the result would have been much better. We commenced during last month to overhaul the whole of the machinery preparatory to the wet season setting in. The second pan is also nearly completed, and will be ready to run when sufficient water comes to supply it.—Mr. White the new manager, writes from Greytown under date, June 16, that he should leave that place on the following day for the company's mines.

HUNTER CONSOLIDATED.—G. P. Armstrong, June 12: Some six or seven bids for charcoal have been received, ranging from 22 to 26 cents. We shall give Brougton and Co., of Rush Lake, the chance at 22 cents, and I think they will take it. The end of Crown Point Tunnel is now in ore; it looks very well, but has not yet been assayed. We have had the ditch for water-pipe surveyed, and will start some men on it to-morrow or next day, or we may do it by contract.

I.X.L. (Gold and Silver).—Lewis Chalmers, June 18: By next Saturday we shall have cut into the O.K. shaft, on reaching which I hope to be able to give you some definite information as to the footwall of the lode at the 200, although I may consider it advisable to continue the cross-cut west from the 200 (now stopped) before I can satisfy myself as to the width and character of the lode in this direction. Since this report was written the contractors have called to say they cannot make wages at the price. I shall run it by the day, unless I can let another contract at about the same figures. I have written Capt. Drake as to drills.

Foreman's report: The adit level is now in 180 ft. from centre of engine-shaft to face.—12 ft. driven this week; said drift is in ledge matter 15 or 20 ft. thick; about 2¼ ft. of the same will apparently pay from $18 to $20 per ton. The drift is now running 30° west of north, pitching 75°. The main shaft is making good progress, going down at the rate of about 1½ ft. per day; is in good blasting ground; said shaft is now down 33 ft. from the 200 ft. station, 28 ft. being contract. The wood-road and chute are now working well, about 100 cords now delivered. Everything in and about the mine running and working well.

LANZI (Lead and Copper Mines, Tuscany).—John Boyns, July 4: I visited the mines this morning, and found a splendid course of lead and blende in the bottom stopes, and the ore that has been dressed since I left is of improved quality and a large amount. Please write at once that I may have plenty of time to send the 400 tons of ore down to the railway.

— John Boyns, July 6: The mine has improved. Since I left the men are all put to stope the ground, so they are breaking a larger quantity of ore, and of a better quality. In the stope in the bottom of No. 6 drive there is a good lode of lead and blende. The winding-engine house is up and covered in, and I am preparing the plans for the shaft tackle, bucket, &c., for King's shaft, to put the engine to work.

— James Sinkin, July 8: On receipt of your telegram of the 6th I immediately communicated with Sanguinello to say that we were ready to begin to send the ore, and have received a reply saying he has charted a vessel for 400 tons, to be loaded at Leghorn on Wednesday next. I have ordered railway trucks to be ready for to-morrow.

PANULCILLO (Copper).—F. G. Welch, June 1: Production from north and south mines amounts to 31,000 quintals metrico, at 5½ per cent. We are getting over our difficulties in the main stopes, and shall have a much better output this month.

PESTARENA UNITED.—July 9: District Val Toppa: In the end south on the western part of the great quartz lode the lode continues to yield 5 cwts. of ore per fathom; worth 8 dwts. of gold per ton. The winze below this end is communicated to the intermediate level, ventilating Zero level on this lode, and opening up the ground for stoping between the two levels. The lode in the end, south of intermediate level, is small in the present end, and yielding low-quality ore. In the end north in this level the lode is yielding 4 tons to the fathom; worth 1 oz. per ton. The stope in the bottom behind the present end is not looking so well; yielding at present 9 tons per fathom, and worth about 7 dwts. per ton. The stope in the back of No. 1 level north yields 5 tons per fathom, and worth about 10 dwts. per ton. No. 1 stope in No. 2 level in the back, south of the second cross-cut, yields 5 tons to the fathom, and worth 9 dwts. per ton. In No. 2 stope, south of first cross-cut west, the lode has opened out very wide, and yielding low-class ore; this we have suspended for the time.—Great Quartz Lode: We have suspended the stopes in the bottom of No. 2 level, north of winze, and resumed the drive in this end of the ground with a view to leave a pillar of lode to support the sides; the lode in this end is worth 5 dwts. per ton, and is 5 ft. wide, but we should meet a better class ore in a few metres driving. In the rise in the back of the intermediate level, south under No. 2 level, the lode is yielding about 7 tons to the fm., and worth about 8 dwts. per ton. In the end south in No. 3 level in the mountain the lode is small, and driving is suspended for the time, the men being required for other work. In the end, south of first cross-cut east in No. 2 level, the lode (Marino Rosso) is yielding 3 tons to the fathom of low quality ore.—Flat and New Lodes: The end, south in Zero level on the so-called counter branch pointing towards the productive part of the new lode, we advanced last month 2·25 metres, and in the most southern end of the ground on the flat lode under No. 2 level we advanced 3·70 metre, the lode producing low-quality ore. The stope on the turn of the flat lode in the back of No. 3 level, south of cross cut east, is yielding 6 tons per fathom, and worth 9 dwts. per ton. The lode in the end north in No. 3 level is poor. The stopes in the back, south of cross-cut, yield 8 tons per fathom, and worth about 8 dwts. per ton. In the end in the lode and branches, east of new lode, south of intermediate cross-cut above No. 2 and south of fourth cross cut, the lode is yielding 5 tons to the fathom, and worth, as per mill trial, 3 dwts. 11 grs. of sponge gold per ton. The stope in the back of No. 2 level on the flat lode yields 5 tons per fathom, and worth about 10 dwts. per ton. The fourth cross cut, eastward in No. 2 level, is being continued; the rock is of a favourable nature, and we hope to reach the flat lode in the course of next month. In No. 5 level we resumed this month the cross-cut eastward, and we expect to reach the line of the great quartz lode in 12 metres. At surface good progress is being made on the walls for floor before No. 4 level. This floor is close to the station of a new iron wire-rope line which is now being put up for the carriage of ore from the mine to the works, concerning which I shall be able to speak more in the course of about two weeks.

District of Pestarena: In the incline shaft we sunk last month 1·70 metre, and have reached the required depth for a 100 fm. level; we are now engaged collaring over the shaft, about 4·40 metres above the bottom, and where we hope to commence this week the driving at the 100 fm. level. In the 90 end south we drove last month 3·25 metres, and re set for the present month to four men, at 100 f. per metre; the lode is yielding 4 tons to the fathom, and a small mill trial of some ore taken from this end gave after the rate of 3 oz. 12 dwts. per ton. In the 90 north 6 metres were driven; it is now set to five men, at 70 f. per metre: the lode yields 4 tons to the fathom, worth as per mill trial 13 dwts. per ton. The stopes in the back of the 90 north are yielding 9 tons per fathom, worth 1 oz. 12 dwts. per ton. In the 80 north the lode yields ½ ton per fathom, worth 4 dwts. per ton. We have commenced a new winze in this level, north of shaft, in which the lode yields about 3 tons of ore per fathom. In the stopes in back of the 80 north the lode yields 5¼ tons per fathom, worth as per mill trial 1 oz. 10 dwts. per ton. The 65 cross-cut was driven last month 1·80 metre, and is being continued by three men. In the end south of this cross-cut, on the supposed No. 2 lode, the lode yields ¼ ton per fathom, worth 6 dwts. per ton. The stopes in back of the 55 north yield 6 tons per fathom; a small mill trial of some ore taken from this stope gave after the rate of 1 oz. 1 dwt. per ton. The rise being put up above this level is proving the ground to be much richer than it was in driving the 55.—Aquavite Department: In the stopes in back of the 55 the lode is yielding 2 tons per fathom, worth as per mill trial 1 oz. 1 dwt. per ton. In the stopes in back of the 23 the lode is estimated to yield 4 tons to the fathom, worth as per small mill trial 6 dwts. per ton.—Surface: Good progress is being made in the new adit, and also in the excavation for the new wheel-pit and outlet for the same; this work is being done on contract.

BRITTANY MINERALS (France).—John Edwards, July 6: The engine-shaft is now sunk 2 fms. 4 ft. below the 70 fm. level, the lode here is 3½ ft. wide, and worth for silver-lead ore for the length of sump 12 ft., 40*l.* to 45*l.*; ground sunk during the past week, 2 ft. The 70 fm. level is now extended 6 fms. south from engine-shaft, the lode in the present end is 2½ ft. wide, and worth from 10*l.* to 12*l.* per fathom for silver-lead ore, and letting out a quantity of water. Ground driven during the past week 6 ft. The lode in the stope in the back of this level is worth 10*l.* to 12*l.* per fathom for lead ore. We shall now commence to push on all the stoping ground we possibly can in order to increase our returns of ore. We shall begin to dress the ore from the 70 stope in the coming week. There is no change to notice in the lode in the engine-shaft at the Bouexieres during the past week. Ground sunk 6 ft. during the week. All the machinery is in good order, and working well. Ore raised since last report, 10 tons.

BENSBERG.—C. Craze, July 9: Victoria Shaft: There is no change in the lode here since my last, it is still producing good stones of lead and blende, and altogether is of a very promising appearance. In the 22, west of this shaft, we are still driving north through the lode, which is producing good dressable work for lead and blende ores; we are now in it about 15 ft., with no sign of the north wall. The 22, east of shaft, is not looking quite so well as last reported; the lode in this end is not so settled and well defined as it is to the west of the shaft—however, we have still some good stones of blende here, and it presents all the appearance of the top of good ore ground. There is no change in any other point underground since my last. As anticipated in my last, we have had some little trouble with our engine for the first three or four days last week, and consequently our progress in the shaft and bottom levels was not so good as could be desired; however, I am glad to say that on Thursday night last we put in a new cataract valve and valve spindle, and on Friday put new stocking in the air-pump plunger of the condenser. We made a thorough cleansing of the condenser, drain-pipes, &c., so that now the engine is in first-class trim, and working much better than for some time past, from which we shall reap the double advantage of being able to work in the bottom of the mine without interruption, and at the same time consume less coals than we have done during the past month.

For remainder of Foreign Mines, see to-day's Journal.]

MINING IN AUSTRALASIA—MONTHLY SUMMARY.

NEW SOUTH WALES.—The Great Victoria Gold Mining Company, Adelong, have obtained the Government grant of 1000*l.* for the discovery of payable gold, at a depth of 800 feet.

THE MOONTA.—The powerful 26-horse hauling engine at Green's shaft was set to work recently and its performances were effective and satisfactory. We record the fact as an evidence of what is within the power of the management of this mine that the erection of the engine was commenced and finished within about twelve working days, there being included in this work the construction of the massive foundations and supports for the machinery, and an immense mass of masonry as loading for the winding gear.

THE KURILLA.—At this mine the workings are looking more and more encouraging every day. It is seldom we visit this property but we see some improvement effected or being effected. Lately the new engine recently imported from England, and erected near Morphett's shaft, was started, notwithstanding the engine-house had not been completed. It was found necessary to start the engine in consequence of the quantity of stuff lying at the bottom of Morphett's shaft, which prevented the men from proceeding with sinking operations. The shaft having been cleared, the men had only commenced sinking when they opened up a splendid lode in the bottom, over 2 ft. wide of solid yellow ore, about 10 tons of which were broken and sent to surface on Tuesday afternoon. At this shaft, which is now down to the 24 fms., more or less ore has been got from the 14 fms. level downwards, but nothing so encouraging as the present discovery. It is to all appearances a strong, healthy, and compact lode, which gives every indication of a permanency. At Hall's shaft, at the 45 fms. level driving east the lode in the end is producing solid yellow ore of a very high percentage. This end is really looking splendid. Operations have been resumed in the end driving west at this level, and judging from a stone sent to the surface, a good lode of ore may be cut at any moment. At surface there is one pile of yellow ore sampled of over 100 tons, which it is expected will go over 20 per cent., and another of an equal quantity is being prepared for sampling. Altogether matters seem to be progressing favourably on this property, and no doubt in a short time double the present complement of ore will be sent away from the mine.

THE WALLAROO.—We are pleased to learn from an authentic source that a good lode of ore has been cut at the 100 fms. in the cross-cut between the North Main's and Harvey shafts, on this mine, believed to be the North Hughes lode. Should this discovery prove a valuable one it will no doubt give the proprietors increased confidence in the workings at the lower levels of the mine.

A gold nugget weighing 60 ozs. has been found at the Northern Territory by two diggers named McIntyre and Johnston. A nugget of gold weighing 3½ ozs. has been found at Biggs's Flat diggings, about 20 miles from Adelaide. One tradesman of Adelaide has purchased 12 ozs. of the diggers, and considerable quantities are bought by the banks. The indications go to prove that this locality is the most promising gold field hitherto discovered in the colony.

A large deputation of ironworkers has represented to the Government the injustice of obtaining nearly all their iron manufactures from England. The Commissioner of Public Works has arranged to give local makers a fresh chance of competing.

The Government has made an offer to the directors of the Kadina and Wallaroo Railway Company to purchase their line.

A powerful earth-scoop has been imported by the Hon. Thomas Elder and Mr. Peter Waite, with a view to employing it in the construction of drains and dams.

Mr. Thompson, a representative of the British Dynamite Company, has arrived, and has conducted a series of experiments at the Moonta Mine, proving that dynamite is cheaper and more effective than lithofracturer as an explosive.

The season continues almost unprecedently favourable for operations in the field, and the area that is being brought under crop will probably exceed by many thousand acres the enormous total of last year. The reports from the pastoral districts are likewise satisfactory. Copious showers have fallen even to the very outskirts of settlement, and a supply of water has been obtained which will render such of the squatters as have been provident enough to construct independent of rain for months to come. Owing mainly to the low price of copper, mining operations are not being conducted with any great spirit. The development of the richer properties is proceeding at much the usual rate, but other workings are being conducted in rather a languid way. The gold diggings near the Wheatsheaf, on the Echunga road, are still affording employment to a large number of men, may of whom are obtaining very encouraging returns.—*South Australian Register*, May 17.

AUSTRALIAN MINES.

BURRA BURRA.—Capt. Sanders, May 12: During the last four weeks we have sunk Morphett's engine-shaft 8 ft., and the shaft is just come in contact with the hanging-wall of Kingston's lode. The 85 north, on Kingston's lode, has been driven about 3½ fms.; the lode is changing, showing spots of ore. The 85 south, on Sanders' lode, has been driven 3 fms.; lode still producing saving work for dressing, and has if anything shown an improvement. Waterhouse's shaft is holed to the 70, and we are now hauling with machine from that level. Have started to drive north from this shaft on Sanders' lode, which is improving as we proceed, producing grey, purple, and yellow ores, saving stuff for dressing. Started to drive the 60 north from Peacock's air-shaft, the end of which has greatly improved for ore, but very spare for driving. At all these several points the lodes are very large, from 11 ft. to upwards of 20 ft. wide. Graves' shaft is suspended until we fix the new pitwork, which is being pushed on as fast as possible, as the water in bottom of shaft is too much to be hauled by hand labour. Our tribute pitches and open-work are producing about the usual quantities of ore.

BON ACCORD.—Advices dated May 11 from Capt. Saunders, resident manager of the Burra Burra Mines, states, with reference to his report on the Bon Accord property of December, 1873:—The deep explorations in the Burra have not caused me to alter the opinion formed now nearly three and a half years since, but to confirm it, as we have discovered a lode in the Burra, not then known to be in existence, called Sanders' lode. This is parallel with Allen's (now called Kingston's) lode for 200 fms. long in the Burra, and I believe will be a rich lode by-and-bye, and no doubt follow Kingston's lode into the Bon Accord property. Kingston's lode made no ore till below the 70 at Morphett's shaft in the Burra, but is now producing very rich grey, purple, and yellow ore. This will be case at Bon Accord. You will find scarcely any carbonates, but sulphurets will predominate at first when ore is discovered. You may be positive you have three lodes in your property, and I think when tested you will find a greater number.

YORKE PENINSULA.—The directors have advices from the committee of inspection at Adelaide, with reports from the Kurilla Mine to May 14. The following are extracts from Capt. Anthony's report:—The Kurilla Lode: During the past month a gradual improvement has been going on in the 45, east of Hall's shaft, and the lode is now yielding 4 tons of 20 per cent. ore per fathom. . . . At the 45 west the lode is 3 ft. wide, composed of broken mica schist, quartz, iron pyrites, carbonate of lime, with occasional stones of good yellow ore. Since getting away from the shaft where the ground is hard, and the south part of the lode pinched, the drive has greatly improved, in so far as the cost of driving and the chances of making ore go. The end is now 6 fms. from the shaft, and driving at the rate of about 6 fms. per month towards Deibles' and Graingers' shafts. . . . There are 18 men on tribute, ot an average of 8s. 6d. in 1*l.*—Morphett's Lode: The engine-shaft is 4½ fms. below the 20; the lode is 8 ft. wide, with 2½ ft. ft. of 18 per cent. ore per fathom; beside-s this, a large portion of the remaining 5½ ft. would pay to crush and jigg. This is a remarkably fine lode, and is improving at every foot we sink. The lode in the 20 east will now measure 3 feet in width, and will yield 1½ ton of 20 per cent. ore per fathom. The lode in the 20 west is pinched very small by hard ground, but there are two small branches of rich ore holding their way through the hard ground. I may remark that after removing two of the men from the west end a pare of tributers have come on a nice bunch of green and grey ore in the bottom of the 10, about 3 fms. further west than the end of the 20 west. . . . There are four men on tribute on this lode, at 5s. in 1*l.* . . . Ore Returns: The 100 tons of ore for which tenders had been invited at the date of my last report, realised net 945*l.* 2s. 7d.; assay return of this ore was 19¾ per cent. . . . Total value of ore on hand, dressed and undressed, 200 tons—say, 1800*l.*, besides 300 tons of dredge ore of 5 per cent.—Machinery: Hall's engine never worked better, and the pitwork in Hall shaft, which has been having almost constant small repairs, is now in capital working condition. I have put the new engine to draw from Morphett's shaft; it works remarkably well, and is capable of doing a great deal of work.—[The telegram from the committee, which was given with the intelligence from the mine last month, was of later date by 17 days than the advices above quoted; there has, therefore, been a further improvement in the lodes since date of those advices.]

PORT PHILLIP AND COLONIAL.—Clunes, May 12: Total quantity of quartz crushed on company's and tributers' account for the four weeks ending April 28, 5373 tons: total gold obtained, 1791 ozs. 18 dwts. Receipts (including 1719*l.* 8s. 2d. obtained from tribute), 4163*l.* 12s.: payments, 2268*l.* 18s.: profit, 1894*l.* 14s., which added to previous balance of 1520*l.* 7s. 11d. made an available balance of 3415*l.* 1s. 11d. The amount divided between the two companies was 1800*l.*, the Port Phillip Company's proportion of which is 1170*l.* The balance, 1615*l.* 1s. 11d., was carried forward to next month's account. Remittance, 1200*l.*

ENGLISH AND AUSTRALIAN (Copper).—Port Adelaide, May 17: The stock of coal at Port Adelaide was about 2431 tons. The smelting operations both at Port Adelaide and Newcastle were proceeding satisfactorily. Since the date of last advices 142 tons of copper had been shipped.

SCOTTISH AUSTRALIAN.—The directors have advices from Sydney dated May 11, with reports from the Lambton Colliery to the 9th of that month. The sales of coal for the month of April amounted to 15,217 tons.

ANGLO-AUSTRALIAN (Gold).—Mr. S. H. Clark writes under date Fryerstown, May 14:—"Although the gold obtained from your mine is less than the three previous months, Capt. Raisbeck informs me that the prospect of the mine being made a success is steadily improving, and I am more hopeful myself than ever if we can only hold on. The Ferrous Company still continues to pay 6d. per share dividends each fortnight." Capt. Raisbeck writes, under date Anglo Mine, May 12:—"I have the honour to report progress since the 14th ult. We have extended the south drive (320 ft. level) 26 ft.: present distance from cross-cut 270 ft. For the last 15 ft. the lode has increased considerably—it is now 6 ft. thick, and strong leaders are making from it to the west. I have driven west upon the same nearly 10 ft., all in quartz. I have seen a little gold, but is is very poor stone at present. The stone in the face of the drive is improving; I think it will make a good run of stone. When commencing to drive south in the stopes this month, we met with a strong bar of hard country, compressing the quartz to a very small size; this stone will get stronger when further south through the bar; seeing I could not get through it this month, I have broken some stone we left on the west side of the run. I also rose up 10 ft. in two places above the stopes, and can see quartz in both places, but we have no money at present to spare to prove it. We have crushed 100 tons of quartz, 53 tons from the stopes, and 47 from the drive—result, about 10 ozs. retorted gold. I shall crush the stone separate next month. Our workings are well ventilated at present, but I have had to put in position 780 ft. of air-pipes to accomplish it."

Registration of New Companies.

The following joint-stock companies have been duly registered:—

TUBAC MINING AND MILLING COMPANY (Limited).—Capital 50,000*l.* in 1*l.* shares, of which 30,000 are preferential, and entitled to a 12 per cent. dividend. To carry out an agreement made between Lord Claud Hamilton and others of the first part, the said Lord Claud Hamilton and H. W. Blake of the second part, N. Green of the third part, and John Clegg, of 27, Leadenhall-street, on behalf of the company, for the acquisition of certain mineral properties in Arizona, America. The subscribers (who take 25 preference shares each) are—C. Hamilton, 19, Eaton-square; R. S. Gladstone, 79, Coleman street, merchant; N. Greene, 11, Bartholomew House, no occupation; H. W. Blake, 90, Leadenhall street; Samuel Gibbins, 19, Lawrence-lane, merchant; Sydney Gedge, Mitcham Hall, Mitcham, solicitor; G. A. Sedgwick, 27, Leadenhall-street, solicitor. The directors are—Lord C. Hamilton, H. W. Blake, R. S. Gladstone, and S. Gibbins, the remuneration being 500*l.* per annum for the whole board, with an additional 100*l.* for every 2½ per cent. of dividend beyond 12 per cent. The qualification is the holding of 100 shares.

GRIQUALAND DIAMOND MINING COMPANY (Limited).—Capital 400,000*l.* in shares of 50*l.* and 1*l.* each. To adopt an agreement for the acquisition of mineral claims in the Kimberley Mine, South Africa, and to carry on business as diamond dealers, merchants, &c. The subscribers (who take one share each) are—J. Porges, 37, Conduit-street, Regent street, merchant; Park Pittar, 59, Gracechurch-street, merchant; G. B. Leverson, 59, Gracechurch street; James Leverson, 37, Conduit-street, merchant; Leopold Taul, Paris, negociant; C. Vanderhow, Paris, negociant; C. Mige, Paris, negociant. M. Jules Porges will be the manager.

RUTHWAITE BARYTES COMPANY (Limited).—Capital 5000*l.* in 5*l.* shares. To acquire a barytes mine in the parish of Uldale, Cumberland. The subscribers (who take one share each) are—J. W. N. Hency, 6, St. James's-square; G. W. Hannarn, Reynolas Rotherfield, Sussex; H. Beckwith, 16, Grange-road, New Highbury, gentleman; N. S. Livgee, Leeds, merchant; J. Speats, Queensbury, Yorkshire, manufacturer; J. W. Holcaster, Bradford, merchant; H. R. Blair, Bradford. This company is registered without articles.

ROCKINGHAM CLAY WORKS (Limited).—Capital 10,000*l.*, in 10*l.* shares. To carry out an agreement made between C. W. D. Sturgeon of the one part, and J. C. Leman on behalf of the company for clay and various other minerals properties, at West Willow, Wiltshire. The subscribers (who take one share each) are—T. G. Groves, 51, Lincoln's Inn-fields; J. C. Leman, 51, Lincoln's Inn-fields, solicitor; R. Chesman, 51, Lincoln's Inn-fields, solicitor; T. Statles, 2, Bryetgrove-road, Holloway, clerk; P. Leman, 41, St. George's-road, S.W., gentleman; R. J. Thornton, 63, Portland-road, Notting Hill, clerk; H. D. Parsons, Caledonian-road, Islington, clerk.

PATENT EVAPORATOR COMPANY (Limited).—Capital 15,000*l.*, in 10*l.* shares. To acquire and work certain Letters Patent, the precise nature of which does not appear. The subscribers (who take one share each) are—Thos. Gray, 34, Fenchurch-street; M. T. Gray, Old Charlton; S. Walker, 34, Fenchurch-street; S. Jackson, 84, King William-street; T. R. Mellor, Eastbourne; R. Fegan, Old Charlton; J. E. Johnson, Milton Villa, Upton.

FISH GILL SCREW PROPULSION COMPANY (Limited).—Capital 10,000*l.*, in 10*l.* shares. To acquire Letters Patent for an improved method of propelling vessels. The subscribers (who take one share each) are—G. F. Harrington, Ryde; J. F. Ollard, Lloyds; T. V. Trechell, 8, Sanuingdale-place, St. Peter's-road, N.W.; V. A. Vebber, Ryde; J. F. Campbell, 17, Warwick street; Alfred Robson, 15, Angel court; R. Wirt, Crown-place, Brighton.

W. DIXON AND COMPANY (Limited).—Capital 30,000*l.*, in 10*l.* shares. To take over the business of Mr. W. Dixon, of 32, Houndsgate, Nottingham, wholesale clother. The subscribers (who take one share each) are—W. Dixon, Nottingham; T. Parker, Nottingham; L. Baggaley, 3, Poultry, Nottingham; C. J. Bowles, Leicester; H. G. Gobbett, Nottingham; Wm. Crosby Hockley, Nottingham; A. Shares, Clarendon-street, Nottingham.

UNITED COUNTIES BUILDING AND INVESTMENT SOCIETY (Limited).—Capital 25,000*l.*, in 25*l.* shares. To carry on the general business of a land and building company. The first seven subscribers are—J. R. Binks, 8, Trinity-terrace, Bow; John S. Starney, 4, New London-street, 10; G. T. Lane, 27, Finsbury-place, 4; O. L. Green, Hatton Garden, 4; W. G. Clark, Bow-road; F. Buckland, 25, Alfred-place, West, South Kensington, 6; W. G. Harrison, Bow-road, 4.

LIFE SAVING AND WAR ROCKET COMPANY (Limited).—Capital 5000*l.*, in 5*l.* shares. To acquire and work a patent for improvements in rockets for saving life, &c.

GRISWOLD AND HAINWORTH (Limited).—Capital 10,000*l.*, in 1*l.* shares. To carry on business as hosiers, &c. The subscribers are—C. J. Griswold, Rayleigh House, South Croydon; W. Hainworth, jun., Cricketfield-road, Lower Clapton, 2000; T. Pugh, 18, Pembury-road, 3; E. Fiske, Rayleigh House, South Croydon, 5; W. R. Dennis, 34, Coleman street; R. Hainworth, Adelaide-place, E.C., 5; C. E. Cordery, Brixton, 5; G. S. Rose, Dulwich, 5.

BOKENNA SLATE QUARRIES COMPANY (Limited).—Capital 800*l.*, in 10*l.* shares. To acquire the lease of slate quarries situate in the Duchy of Cornwall. The subscribers are—W. Sheppard, 81, Richmond-road, Hackney, merchant, 20; A. S. Hughes, 105, Cannon-street, E.C., accountant, 20; G. W. T. Loftus, 6, Redbrook Park-road, no ocupation, 20; John Ferguson, 8, Perth-road, Finsbury Park, slate agent, 17; E. L. Neunmegen, Kew, no occupation, 1; D. W. Lambe, 17, St. Swithin's-lane; W. H. Golds, Malpas-road, New Cross, secretary.

FISH GILL SCREW PROPULSION COMPANY (Limited).—Capital 10,000*l.*, in 10*l.* shares. To acquire letters patent for an improved method of propelling ships. The subscribers (who take one share each) are—G. F. Harrington, Ryde; J. F. Ollard, Lloyds; T. W. Freckell, St. Peter's-road, N.W.; V. A. Webber, Ryde; J. T. Campbell, 17, Warwick street, Regent-street; Alfred Robson, 15, Angel court, E.C.; R. West, Crown place.

EBERLE'S HOTEL AND RESTAURANT COMPANY (Limited).—Capital 100,000*l.*, in 10*l.* shares. To purchase a plot of land at Liverpool from the Pavilion Restaurant Company for the purpose of erecting a restaurant, and to acquire the Royal and Albermarle Hotels, Liverpool. The subscribers (who take one share each) are—Phillip Eberle, Blundellsands, Liverpool; D. Radcliffe, 73, Lime street, Liverpool; James Ramsay, the Poplars, Rusholme, Manchester; H. Fairbrother, Albert square, Manchester; W. Taylor, jun., 29, Whitechapel, Liverpool; W. H. Hayes, Freshfield, near Liverpool; Alfred Williams, Brookfield-terrace, Fairfield.

SUTTON PARK CRYSTAL PALACE COMPANY (Limited).—Capital 25,000*l.*, in 5*l.* shares. To construct ornamental gardens, an aquarium, concert-room, &c., at Sutton Coldfield. The subscribers are—James Bartleet, Trafalgar-place, Heathfield road, Handsworth, 100; A. C. Hawkes, Pershore, Birmingham, 100; John M'Clelland, Sutton Coldfield, 5; H. W. Sanbridge, Edgbaston-road, Birmingham, 100; W. R. Martin, The Beeches, Green lanes, Birmingham, 10; Thomas Williams, Birmingham, 20; R. Long, Canning place, Liverpool, 40; W. J. Taylor, Lee-crescent, Birmingham, 20.

HULL BOTANIC GARDENS COMPANY (Limited).—Capital 30,000, in 5*l.* shares. To acquire land at Kingston upon-Hull, in order to establish botanical gardens. The subscribers (who take 20 shares each), are T. L. Read, Newington, Hull; W. Walters, 18, High-street, Hull; S. C. Frankish, 12, Boulalley-lane, Hull; S. Walker, Newington, Hull; J. M. Hamilton, Church-street, Hull; Charles W—, Manor-street, Hull; J. Daulen, 16, Parliament-street, Hull.

SHEFFIELD CAFE COMPANY (Limited).—Capital 20,000*l.*, in 1*l.* shares. To establish cafés in Sheffield. The subscribers are—G. Barrett, Sheffield, 250; W. J. Clegg, 57, Bank-street, Sheffield, 100; E. S. Bramwell, Sheffield, 100; J. H. Barber, 4, Broomhall Park, Sheffield, 100; H. J. Wilson, Sheffield; D. R. Doncaster, 17, Broomhale Park, Sheffield, 100; D. Taylor, 29, Sheffield Moor, Sheffield, 10.

COLUMBIA MARKET GENERAL CO-OPERATIVE STORES (Limited).—Capital 20,000*l.*, in 1*l.* shares. To carry on a co operative store in all its branches. The subscribers are—F. Tallis, 265, Amhurst-road, Stoke Newington, 25; G. D. Hooker, 10, Oxford-road, 25; H. South, 4, Motley-street. Curtain-road, 25; Thos. Mogg, 1, Hackney-road, 25; W. Water, 51, Penn-street, Holborn, 5; C. H. Clarke, Paternoster row, 1; R. F. Fayer, 9, Southampton-street, Fitzroy-square.

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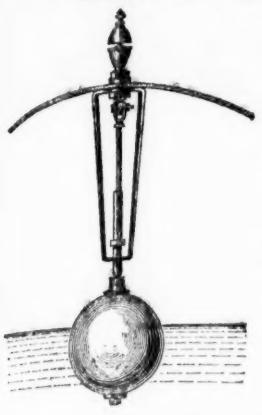

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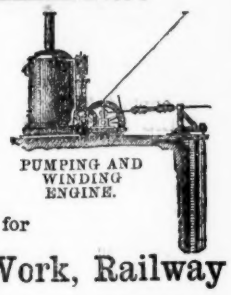

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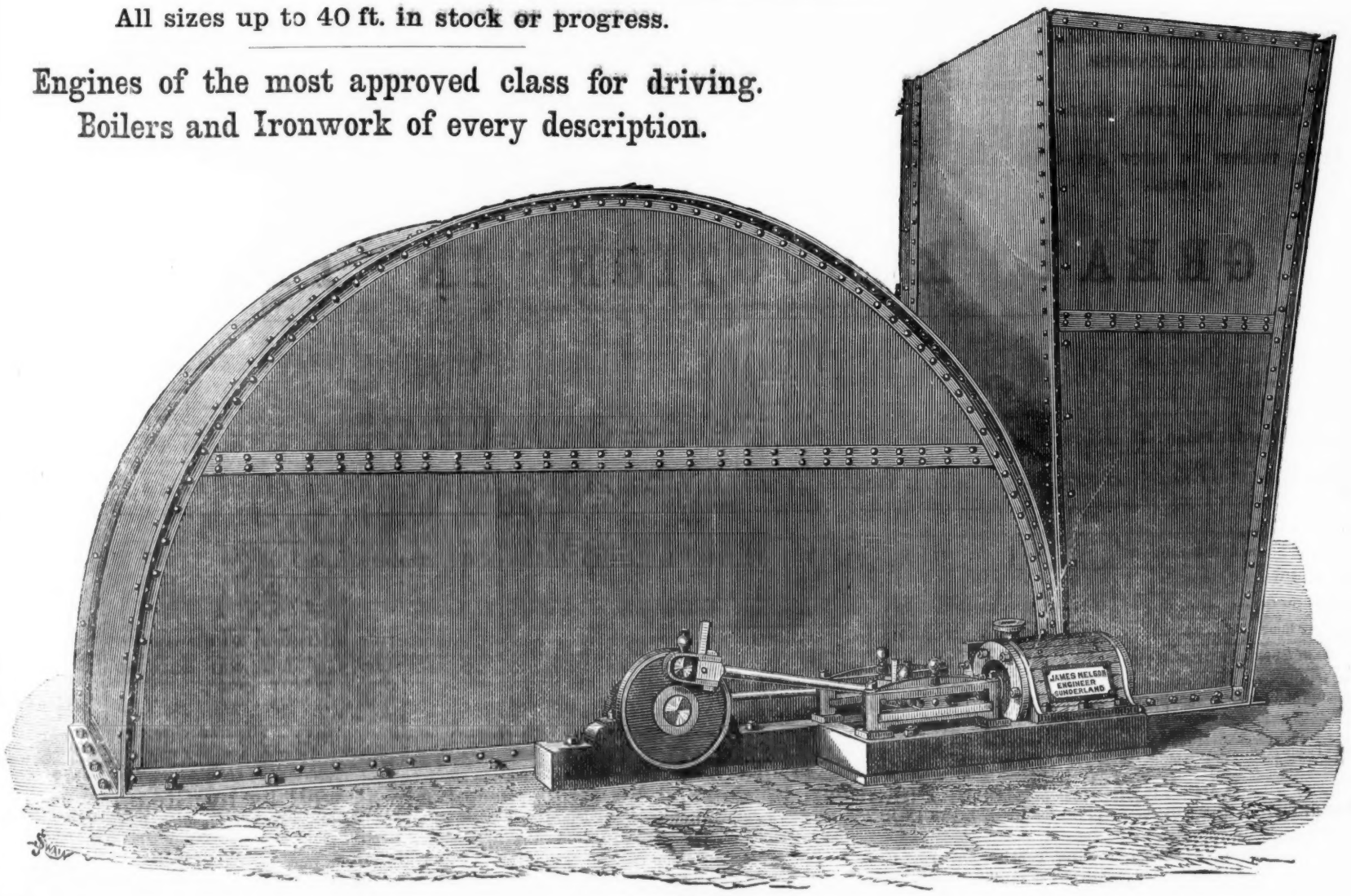

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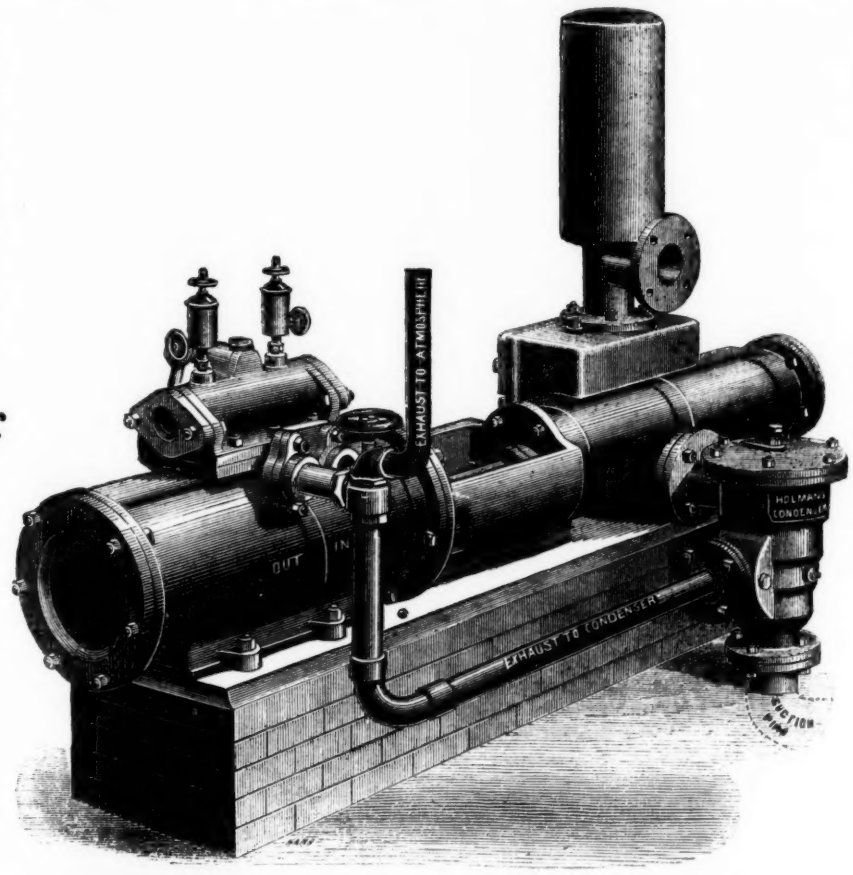

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Length of Stroke .....In.	9	9	9	9	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	18	12	12	12	18	24	12	12
Gallons per hour	680	815	1830	3250	1830	3250	5070	1830	3250	5070	7330	1830	3250	5070	7330	9750	3250	5070	7330	9750	13,000	5070	7330	9750	13,000	16,500	5070	7330
Price of Special Pump ...£	**16**	**18**	**20**	**25**	**22 10**	**27 10**	**32 10**	**25**	**30**	**35**	**40**	**30**	**35**	**40**	**45**	**50**	**40**	**45**	**50**	**55**	**65**	**50**	**55**	**60**	**70**	**85**	**55**	**60**
Extra, if fitted with Holman's Condenser and Blow-through Valve	£7	£7	£9	£11	£8 10	£11 10s	£12 10s	£9	£12	£15	£15	£10	£13	£15	£16	£22	£13	£16	£16	£22	£22	£16	£16	£23	£24	£35	£17	£17

CONTINUED.

Diameter of Steam Cylinder..In.	10	10	10	10	12	12	12	12	12	12	14	14	14	14	14	14	16	16	16	16	16	18	18	18	18
Diameter of Water Cylinder..In	7	8	9	10	6	7	8	9	10	12	7	8	9	10	12	14	8	9	10	12	14	9	10	12	14
Length of Stroke .....In	12	18	24	24	18	18	18	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Gallons per hour	9750	13,000	16,519	20,000	7330	9750	13,000	16,519	20,000	30,000	9750	13,000	16,519	20,000	30,000	40,000	13,000	16,519	20,000	30,000	40,000	16,519	20,000	30,000	40,000
Price of Special Pump..£	**65**	**75**	**90**	**100**	**75**	**80**	**85**	**110**	**120**	**140**	**110**	**120**	**130**	**140**	**160**	**180**	**140**	**150**	**160**	**180**	**200**	**180**	**190**	**210**	**230**
Extra, if fitted with Holman's Condenser and Blow-through Valve	£23	£24	£35	£35	£20	£27	£27	£38	£38	£50	£28	£28	£40	£40	£55	£55	£28	£40	£40	£55	£55	£45	£45	£56	£60

Intending purchasers of Steam Pumps would do well to observe the great length of stroke, short steam cylinder, and short piston of the "Special" Steam Pump, as compared with the short stroke, long steam cylinder, and long piston of the Pumps of other makers, as the efficiency and durability of the machine, and the space occupied by same, greatly depend upon this. The advantage of long strokes will be obvious when purchasers are reminded that each set of suction and delivery valves of a "Special" Steam Pump with 24 in. stroke, running at 120 ft. per minute, would open and close only 30 times per minute, as against 120 times per minute in a Pump with only 6 in. stroke performing same duty.

The "Special" Steam Pump can be worked by Compressed Air as well as by Steam.

HUNDREDS of these PUMPS are USED for HIGH LIFTS IN MINES, for which purpose they are made with 21, 24, 26, 28, 30, and 32-inch Steam Cylinders, and 36 48 and 72-inch Strokes.

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Messrs. TANGYE BROTHERS AND HOLMAN.

GENTLEMEN,—I have great pleasure in recording my entire satisfaction with the working of the Holman's Patent Steam Pump Condenser which you have supplied to us. The complete condensation of the steam is, apart from its value in the strict economical sense, a most valuable feature in the drainage of underground workings. The perfect manner in which this important result is accomplished by your Condenser is extremely creditable to you, and merits the thanks and commendation of the Mining Engineer. When we start the "Special" Steam Pump the Condenser commences working automatically, and maintains a constant vacuum of 10¾ lbs. per square inch, even when we run the Pump upwards of 80 strokes (106 feet) per minute. It may perhaps be interesting to you to know that when we were running the Pump at 84 strokes (168 feet) per minute, the steam gauge indicating a steam pressure of 36 lbs. per square inch, 80 yards from the Pump and the Condenser vacuum gauge on the exhaust pipe indicating a steady vacuum of 21½ inches, I turned the exhaust steam from the Condenser into the atmosphere, when the speed at once fell to 44 strokes per minute. The working economy thus shown is really so great that the cost of the Condenser must be saved in a very short time. (Signed) J. THOMPSON.

NORTH OF ENGLAND HOUSE ... ... TANGYE BROTHERS AND RAKE, ST. NICHOLAS BUILDINGS, NEWCASTLE-ON-TYNE.
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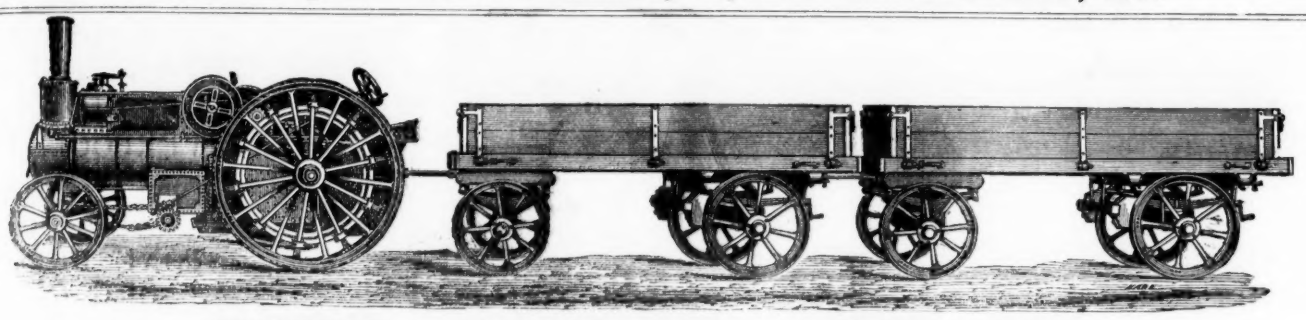

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FOR BOILER FEEDING AND HIGH LIFTS.

SOLE MAKERS,—

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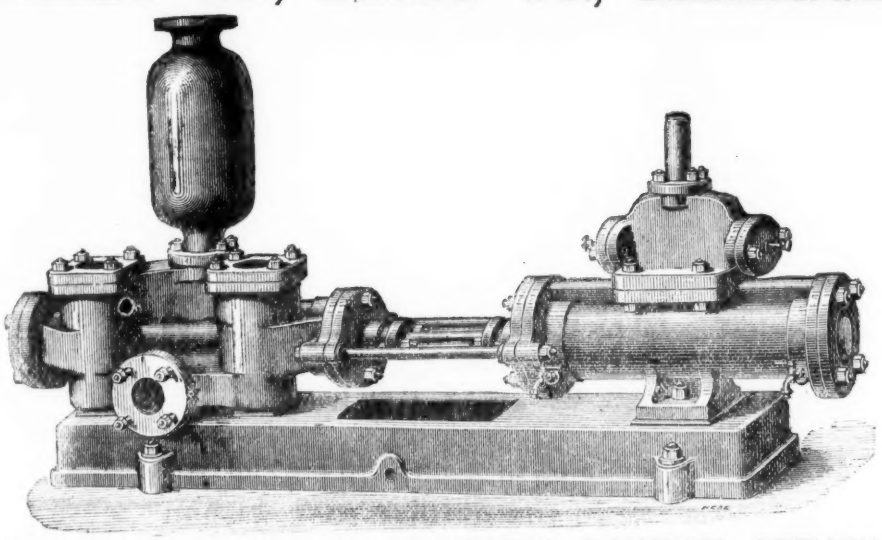
The accompanying Engraving represents a Steam Pump, suitable for boiler feeding and high lifts; it possesses the following advantages over any other Steam Pump yet before the public:—

1st.—No tappets, eccentrics, levers or other mechanical appliances are used to actuate the steam slide valve, but this office is performed by the exhaust steam.

2nd.—The only working parts in the steam cylinder are the piston and slide valve, and as there are no working parts in either the piston or cylinder covers, the full length of stroke is obtained.



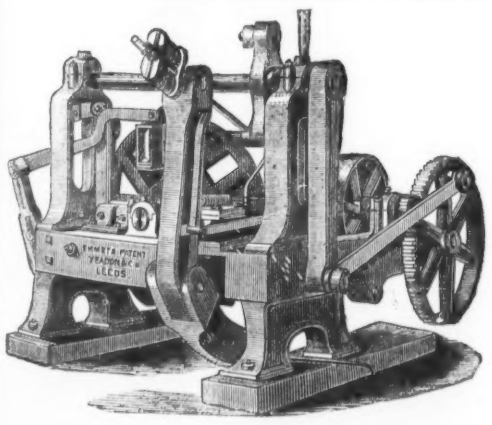
3rd.—The slide valve is so easy of access that it can be examined, cleaned, and replaced in a few minutes, and it is impossible to make any error in replacing it after examination, because it is immaterial which way it is inserted in the valve-box, whether one way or the other upwards, or whether end for end.

The pump valves and seats are of gun metal, and can be easily examined, cleaned, and replaced or renewed in a very short time by any ordinary workman.

SIZES AND PRICES OF COLEBROOK'S PATENT STEAM PUMPS.

Diameter of Steam Cylinder.....Inches	1½	3	3	3	3	4	4	4	4	5	5	5	6	6	6	6	7	7	7	7	7	8
Diameter of Pump Cylinder.....Inches	1	1½	2	2½	3	2	2½	3	4	3	4	5	3	4	5	6	3	4	5	6	7	4
Length of Stroke.....Inches	6	12	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Price.....	£12	£16	£17	£18	£19	£19	£20	£22	£25	£23	£28	£32	£26	£33	£36	£41	£30	£38	£41	£45	£52	£40
Diameter of Steam Cylinder.....Inches	8	8	8	8	9	9	9	9	9	10	10	10	10	10	10	12	12	12	12	12	12	...
Diameter of Pump Cylinder.....Inches	5	6	7	8	5	6	7	8	9	5	6	7	8	9	10	6	7	8	9	10	12	...
Length of Stroke.....	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	...
Price.....	£45	£50	£56	£65	£50	£55	£60	£70	£81	£62	£68	£70	£80	£95	£100	£80	£85	£90	£100	£115	£135	...

Many other combinations of steam and water cylinders in both classes of pump can be made, for which prices can be obtained on application.
The water cylinders can be supplied with brass or gun metal linings at an increased cost, according to size.
Any of the above pumps can be arranged to act as stationary fire-engines.



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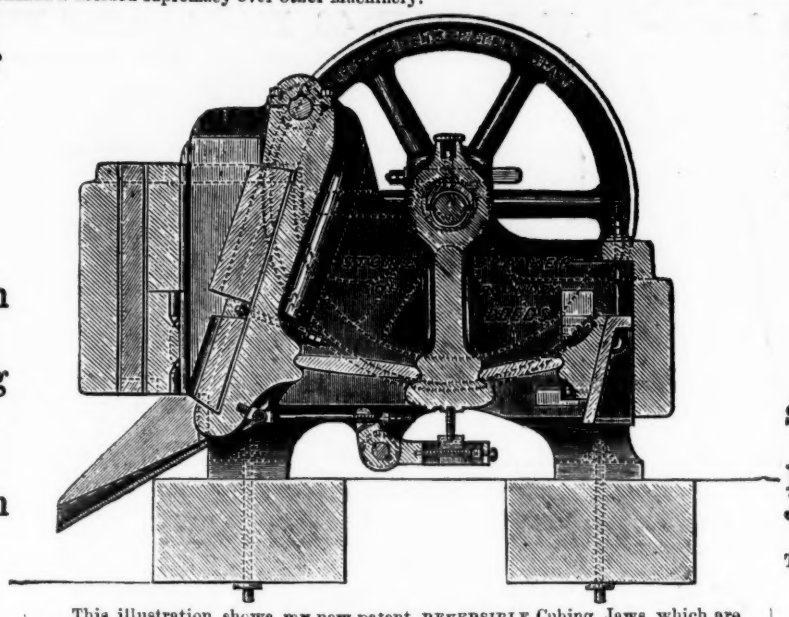

H. R. Marsden will exhibit in full operation, at the ROYAL AGRICULTURAL SOCIETY'S SHOW, LIVERPOOL, JULY 11 TO 16.

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PARTIES DESIRING TO SEE THEIR OWN MATERIAL BROKEN OR CRUSHED ARE REQUESTED TO BRING SAMPLES WITH THEM.

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"The Machine is well designed, simple, but substantially made, and is capable of reducing any material to fine gravel, such as copper ore, and is certainly preferable to the stamps in use for that purpose."—*Mining Journal*.

"Your Machine will crush from 60 to 120 tons of hard limestone per day of 10 hours."

This illustration shows my new patent REVERSIBLE Cubing Jaws, which are made in upper and lower sections, and the backs planed, so that when the bottom part of the lower section becomes worn it can be turned upside down, and thus made equal to new. This process does not require the aid of skilled labour, the white metal being entirely dispensed with.

THESE JAWS WILL WEAR FOUR TIMES longer than any other, and they can be renewed at a fractional cost.

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